

# Surveillance Case Definitions for *Select* Reportable Diseases in Florida

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Bureau of Epidemiology






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# Case Definitions for Select Diseases and Conditions Under Public Health Surveillance

## INTRODUCTION

The importance of surveillance data collected from reportable disease information cannot be overstated. Without such data, trends cannot be accurately monitored, unusual occurrences of diseases might not be detected, and the effectiveness of intervention activities cannot be evaluated. Uniform reporting criteria, in addition to the simplicity and timeliness of surveillance data, are fundamental to increasing the specificity of reporting and improving the comparability of information about diseases occurring in different regions of the state. This document provides updated uniform criteria for the local county public health departments to use when reporting Florida's notifiable infectious diseases.

The surveillance case definitions included in this document differ in their use of clinical, laboratory, and epidemiologic criteria to define cases. For example, some clinical syndromes do not have confirmatory laboratory tests; however, laboratory evidence may be one component of a clinical definition. Some diseases require laboratory confirmation for diagnosis regardless of clinical symptoms, whereas others are diagnosed based on epidemiologic data alone. **To assist in laboratory diagnosis and epidemiologic investigation, there are certain diseases for which an isolate of the organism should, and in some cases must (as required by *Florida Administrative Code, 64D-3*), be sent to the Bureau of Laboratories.**

Substantial amounts of information, including laboratory tests, must be collected for many diseases before a final case classification is possible. **Since final case review and classification is performed at the state level using laboratory as well clinical data, it is requested that copies of the paper laboratory reports be submitted with paper case report forms for certain diseases.** This list of diseases changes as additional diseases are incorporated to full electronic submission via Merlin. The most up-to-date list of diseases that require paper submission of case report forms and their associated laboratory results can be seen at:

[http://www.doh.state.fl.us/DISEASE\\_CTRL/epi/surv/DiseasesRequireCRF\\_.pdf](http://www.doh.state.fl.us/DISEASE_CTRL/epi/surv/DiseasesRequireCRF_.pdf).

Case report forms for diseases under public health surveillance in Florida can be found at:

[http://www.doh.state.fl.us/disease\\_ctrl/epi/topics/crforms.htm](http://www.doh.state.fl.us/disease_ctrl/epi/topics/crforms.htm)

**Summary of 2011 disease codes with case definition changes:** Acute arboviral diseases, botulism, campylobacteriosis, cryptosporidiosis, CJD, giardiasis, Lyme disease, and viral hemorrhagic fevers

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## List of Sterile and Non-Sterile Sites

Below is a list of common sterile and non-sterile sites. For additional questions please contact the Bureau of Epidemiology.

**Non-sterile:** Bronch wash, wound, eye, sputum, stool, urine

**Sterile:** Blood, CSF, pleural fluid, peritoneal fluid, pericardial fluid, deep tissue specimen taken during surgery (e.g., muscle collected during debridement for necrotizing fasciitis), gallbladder, bone or joint fluid. This does not include middle ear or superficial wound aspirates.



**Suspect Immediately:** Report immediately, 24 hours a day, 7 days a week (24/7), by phone upon initial clinical suspicion or laboratory test order



**Immediately:** Report immediately 24 hours a day, 7 days a week (24/7), by phone upon diagnosis



Isolates or specimens are required to be submitted to the Bureau of Laboratories as required by Chapter 64D-3 Florida Administrative Code

## HOW TO USE INFORMATION IN THIS REPORT

These case definitions are to be used for identifying and classifying cases for reporting to the Department of Health, Bureau of Epidemiology. Terms that are used in case classifications are defined in the section **Definition of Terms Used in Case Classification** below.

### Definition of Terms Used in Case Classification

**CLINICALLY COMPATIBLE CASE:** a clinical syndrome generally compatible with the disease, as described in the clinical description.

**CONFIRMED CASE:** a case that is classified as confirmed for reporting purposes.

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

**LABORATORY-CONFIRMED CASE:** a case that is confirmed by one or more of the laboratory methods listed in the case definition under Laboratory Criteria for Diagnosis.



**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 suspected for reporting purposes.

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## Acute Arboviral Diseases (neuroinvasive and non-neuroinvasive)

- reporting code = 06210 Western Equine Encephalitis virus (neuroinvasive)
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- = 06621 Venezuelan Equine Encephalitis virus (non-neuroinvasive) 
- = 06630 West Nile virus (neuroinvasive)
- = 06631 West Nile virus (non-neuroinvasive)

Case report form: (08/08)

[Florida Confidential Vector-borne Disease Infection Case Report](#)

**MERLIN ELECTRONIC SUBMISSION**

### Background

Arthropod-borne viruses (arboviruses) are transmitted to humans primarily through the bites of infected mosquitoes, ticks, sand flies, or midges. Other modes of transmission for some arboviruses include blood transfusion, organ transplantation, perinatal transmission, consumption of unpasteurized dairy products, breast feeding, and laboratory exposures.

More than 130 arboviruses are known to cause human disease. Most arboviruses of public health importance belong to one of three virus genera: *Flavivirus*, *Alphavirus*, and *Bunyavirus*.

### Clinical description

Most arboviral infections are asymptomatic. Clinical disease ranges from mild febrile illness to severe encephalitis. For the purposes of surveillance and reporting, based on their clinical presentation, arboviral disease cases are often categorized into two primary groups: neuroinvasive disease and non-neuroinvasive disease.

#### 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, cerebrospinal fluid (CSF) pleocytosis, or abnormal neuroimaging. AFP may result from anterior ("polio") myelitis, peripheral neuritis, or post-infectious peripheral demyelinating neuropathy (i.e., Guillain-Barré syndrome). Less common neurological manifestations, such as cranial nerve palsies, also occur.

#### Non-neuroinvasive disease

Most arboviruses are capable of causing an acute systemic febrile illness (e.g., West Nile fever) that may include headache, myalgias, arthralgias, rash, or gastrointestinal symptoms. Rarely, myocarditis, pancreatitis, hepatitis, or ocular manifestations such as chorioretinitis and iridocyclitis can occur.



## Clinical criteria for diagnosis

A clinically compatible case of arboviral disease is defined as follows:

### Neuroinvasive disease

- Fever ( $\geq 100.4^{\circ}\text{F}$  or  $38^{\circ}\text{C}$ ) as reported by the patient or a health-care provider, **AND**
- 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.

### Non-neuroinvasive disease

- Fever ( $\geq 100.4^{\circ}\text{F}$  or  $38^{\circ}\text{C}$ ) as reported by the patient or a health-care provider, **AND**
- Absence of neuroinvasive disease, **AND**
- Absence of a more likely clinical explanation.

## Laboratory criteria for diagnosis

- 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, **OR**
- Virus-specific IgM antibodies in CSF and a negative result for other IgM antibodies in CSF for arboviruses endemic to the region where exposure occurred, **OR**
- Virus-specific IgM antibodies in CSF or serum.

## Case classification

### *Confirmed:*

#### *Neuroinvasive disease*

A case that meets the above clinical criteria for neuroinvasive disease and one or more the following laboratory criteria for a confirmed case:

- 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, **OR**
- Virus-specific IgM antibodies in CSF and a negative result for other IgM antibodies in CSF for arboviruses endemic to the region where exposure occurred.

#### *Non-neuroinvasive disease*

A case that meets the above clinical criteria for non-neuroinvasive disease and one or more of the following laboratory criteria for a confirmed case:

- 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, **OR**
- Virus-specific IgM antibodies in CSF and a negative result for other IgM antibodies in CSF for arboviruses endemic to the region where exposure occurred.

*Probable:*

*Neuroinvasive disease*

A case that meets the above clinical criteria for neuroinvasive disease and the following laboratory criteria:

- Virus-specific IgM antibodies in CSF or serum but with no other testing.

*Non-neuroinvasive disease*

A case that meets the above clinical criteria for non-neuroinvasive disease and the laboratory criteria for a probable case:

- Virus-specific IgM antibodies in CSF or serum but with no other testing.

## Comment

### Interpreting arboviral laboratory results

- **Serologic cross-reactivity.** In some instances, arboviruses from the same genus produce cross-reactive antibodies. In geographic areas where two or more closely-related arboviruses occur, serologic testing for more than one virus may be needed and results compared to determine the specific causative virus. For example, such testing might be needed to distinguish antibodies resulting from infections within genera, e.g., flaviviruses such as West Nile, St. Louis encephalitis, Powassan, Dengue, or Japanese encephalitis viruses.
- **Rise and fall of IgM antibodies.** For most arboviral infections, IgM antibodies are generally first detectable at 3 to 8 days after onset of illness and persist for 30 to 90 days, but longer persistence has been documented (e.g., up to 500 days for West Nile virus). Serum collected within 8 days of illness onset may not have detectable IgM and testing should be repeated on a convalescent-phase sample to rule out arboviral infection in those with a compatible clinical syndrome.
- **Persistence of IgM antibodies.** Arboviral IgM antibodies may be detected in some patients months or years after their acute infection. Therefore, the presence of these virus-specific IgM antibodies may signify a past infection and be unrelated to the current acute illness. Finding virus-specific IgM antibodies in CSF or a fourfold or greater change in virus-specific antibody titers between acute- and convalescent-phase serum specimens provides additional laboratory evidence that the arbovirus was the likely cause of the patient's recent illness. Clinical and epidemiologic history also should be carefully considered.
- **Persistence of IgG and neutralizing antibodies.** Arboviral IgG and neutralizing antibodies can persist for many years following a symptomatic or asymptomatic infection. Therefore, the presence of these antibodies alone is only evidence of previous infection and clinically compatible cases with the presence of IgG, but not IgM, should be evaluated for other etiologic agents.
- **Arboviral serologic assays.** Assays for the detection of IgM and IgG antibodies commonly include enzyme-linked immunosorbent assay (ELISA), microsphere immunoassay (MIA), or immunofluorescence assay (IFA). These assays provide a presumptive diagnosis and should

have confirmatory testing performed. Confirmatory testing involves the detection of arboviral-specific neutralizing antibodies utilizing assays such as plaque reduction neutralization test (PRNT).

- **Other information to consider.** Vaccination history, detailed travel history, date of onset of symptoms, and knowledge of potentially cross-reactive arboviruses known to circulate in the geographic area should be considered when interpreting results.

#### Imported arboviral diseases

Human disease cases due to Dengue or Yellow fever viruses are nationally notifiable to CDC using specific case definitions. However, many other exotic arboviruses (e.g., Chikungunya, Japanese encephalitis, Tick-borne encephalitis, Venezuelan equine encephalitis, and Rift Valley fever viruses) are important public health risks for the United States as competent vectors exist that could allow for sustained transmission upon establishment of imported arboviral pathogens. Health-care providers and public health officials should maintain a high index of clinical suspicion for cases of potentially exotic or unusual arboviral etiology, particularly in international travelers. If a suspected case occurs, it should be reported to the appropriate local/state health agencies and CDC.

Arboviral encephalitis cannot be distinguished clinically from other central nervous system (CNS) infections.

 **Acute and convalescent sera from reported and suspect cases should be acquired and sent to the Bureau of Laboratories.**

#### **Note**

The Surveillance and Control of Arthropod-borne Diseases in Florida, 2009 Guidebook is found online at the following link:

<http://www.doh.state.fl.us/environment/arboviral/index.html>

For additional information about arboviral diseases please visit the Bureau of Community Environmental Health website <http://www.doh.state.fl.us/environment/community/arboviral/index.html>

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## Amebic Encephalitis (*Naegleria fowleri*, *Balamuthia mandrillaris*, *Acanthamoeba* excluding *A. keratitis*)

reporting code = 13620

case report form: [Primary Amebic Meningoencephalitis Case Report](#)

### *Naegleria fowleri* Causing Primary Amebic Meningoencephalitis (PAM)

#### **Clinical description**

*N. fowleri* is a free-living ameboflagellate that invades the brain and meninges via the nasal mucosa and olfactory nerve to cause acute, fulminant hemorrhagic meningoencephalitis (primary amebic meningoencephalitis – PAM), primarily in healthy children and young adults with a recent history of exposure to warm fresh water. Initial signs and symptoms of PAM begin 1 to 14 days after infection and include sudden onset of headache, fever, nausea, vomiting, and stiff neck accompanied by positive Kernig's and Brudzinski's signs. In some cases, abnormalities in taste or smell, nasal obstruction and nasal discharge may be seen. Other symptoms may include photophobia, mental-state abnormalities, lethargy, dizziness, loss of balance, other visual disturbances, hallucinations, delirium, seizures, and coma. After the onset of symptoms, the disease progresses rapidly and usually results in death within 3 to 7 days. Although a variety of treatments have been shown to be active against amebae in vitro and have been used to treat infected persons, most infections have still been fatal.

#### **Laboratory criteria for diagnosis**

Laboratory-confirmed *N. fowleri* infection is defined as the detection of *N. fowleri*

- Organisms in CSF, biopsy, or tissue specimens,
- OR
- Nucleic acid in CSF, biopsy, or tissue specimens.

#### **Case classification**

**Confirmed:** a clinically compatible illness that is laboratory confirmed. When available, molecular characterization should be reported.

**Suspect:** a clinically compatible illness but either further investigation is required or investigation of the case did not provide supporting evidence for the diagnosis.

#### **Comment**

*N. fowleri* may cause clinically-similar illness to bacterial meningitis, particularly in its early stages. Definitive diagnosis by a reference laboratory may be required.

### *Balamuthia mandrillaris* Disease

#### **Clinical description**

*B. mandrillaris* is an opportunistic free-living amoeba that may invade the brain through the blood, probably from a primary infection in the skin (from ulcers or dermatitis) or the sinuses and middle ear (from rhinitis, sinusitis, or otitis media). Once in the brain, the amoebae can cause a granulomatous amebic encephalitis (GAE). The amoebae may also invade the brain via the nasal mucosa and olfactory nerve. *B. mandrillaris* GAE often has a slow and insidious onset and develops as a subacute or chronic disease lasting several weeks to months. *B. mandrillaris* GAE generally affects persons who are

immunosuppressed from a variety of causes (e.g., HIV/AIDS, IV drug use). However, cases have also occurred in young children and older adults with no obvious signs of immunosuppression. In some instances, affected individuals have had a relatively rapid clinical course. Initial symptoms of *B. mandrillaris* GAE may include headache, photophobia, and stiff neck accompanied by positive Kernig's and Brudzinski's signs. Other symptoms may include nausea, vomiting, low-grade fever, muscle aches, weight loss, mental-state abnormalities, lethargy, dizziness, loss of balance, cranial nerve palsies, other visual disturbances, hemiparesis, seizures, and coma. 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 neurological symptoms by 1 month to approximately 2 years. Once the disease progresses to the acute stage, it is generally fatal within weeks or months. However, a few patients have survived this infection.

### Laboratory criteria for diagnosis

Laboratory-confirmed *B. mandrillaris* infection is defined as the detection of *B. mandrillaris*

- 1) Organisms in CSF, biopsy, tissue or other specimens, or
- 2) Nucleic acid in CSF, biopsy, tissue or other specimens.

### Case classification

**Confirmed:** a clinically compatible illness that is laboratory confirmed. When available, molecular characterization should be reported.

**Probable:** a clinically compatible illness with serologic evidence of infection ( $\geq 1:128$ ) but lacking appropriate tissue specimens for further confirmatory testing.

### Comment

*B. mandrillaris* and *Acanthamoeba* spp. may cause clinically-similar illnesses and may be difficult to differentiate using commonly-available laboratory procedures. Definitive diagnosis by a reference laboratory may be required. A negative test on CSF does not rule out infection because the organism load in the CSF is often low.

### *Acanthamoeba* Disease (excluding *A. keratitis*)

#### Clinical description

The genus *Acanthamoeba* includes several species of opportunistic free-living amoebae that may invade the brain through the blood, probably from a primary infection in the skin (from ulcers or dermatitis) or the sinuses and middle ear (from rhinitis, sinusitis, or otitis media). Once in the brain, the amoebae cause a granulomatous amoebic encephalitis (GAE). The amoebae may also invade the brain via the nasal mucosa and olfactory nerve. *Acanthamoeba* GAE has a slow and insidious onset and develops as a subacute or chronic disease lasting several weeks to months. *Acanthamoeba* GAE generally affects persons who are immunosuppressed from a variety of causes (e.g., HIV/AIDS, diabetes, organ transplantation). However, a few cases have been described in individuals with no obvious signs of immunosuppression. Initial symptoms of *Acanthamoeba* GAE may include headache, photophobia, and stiff neck accompanied by positive Kernig's and Brudzinski's signs. Other symptoms may include nausea, vomiting, low-grade fever, muscle aches, weight loss, mental-state abnormalities, lethargy, dizziness, loss of balance, cranial nerve palsies, other visual disturbances, hemiparesis, seizures, and coma. Once the disease progresses to the acute stage, it is generally fatal within weeks or months. However, a few patients have survived this infection.

Laboratory-confirmed *Acanthamoeba* spp. infections (excluding *A. keratitis*) are defined as the detection of *Acanthamoeba* spp.

- 1) Organisms in CSF, biopsy, tissue or other specimens, or
- 2) Nucleic acid in CSF, biopsy, tissue or other specimens.

### Case classification

Confirmed: a clinically compatible illness that is laboratory confirmed. When available, species designation and molecular characterization should be reported.

Suspect: a clinically compatible illness but either further investigation is required or investigation of the case did not provide supporting evidence for the diagnosis.

#### Comment

*Acanthamoeba* and *B. mandrillaris* may cause clinically-similar illnesses and may be difficult to differentiate using commonly-available laboratory procedures. Definitive diagnosis by a reference laboratory may be required. Several species of *Acanthamoeba* are associated with infection (i.e., *A. castellanii*, *A. culbertsoni*, *A. hatchetti*, *A. healyi*, *A. polyphaga*, *A. rhyodes*, *A. astonyxis*, *A. lenticulata* and *A. divionensis*).

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## Anaplasmosis/Ehrlichiosis, Human

reporting code = 08381 Ehrlichiosis/Anaplasmosis, HGE, *A. phagocytophilum*  
 reporting code = 08382 Ehrlichiosis/Anaplasmosis, HME, *E. chaffeensis*  
 reporting code = 08383 Ehrlichiosis/Anaplasmosis, *E. ewigii*  
 reporting code = 08384 Ehrlichiosis/Anaplasmosis, undetermined

case report form: (CDC 55.1, 1/08)

[Tick-Borne Rickettsial Disease Case Report](#)

See Ehrlichiosis for case definition listing

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## Anthrax

reporting code = 02200

case report form: N/A

### Clinical description

An illness with acute onset characterized by several distinct clinical forms, including the following:

- Cutaneous: a painless skin lesion usually evolving during a period of 2–6 days from a papule, through a vesicular stage, to a depressed black eschar with surrounding edema. Fever, malaise and lymphadenopathy may accompany the lesion.
- Inhalation: a brief prodrome resembling a viral respiratory illness, followed by development of hypoxia and dyspnea or acute respiratory distress with resulting cyanosis and shock, often with radiographic evidence of mediastinal widening or pleural effusion.
- Gastrointestinal: severe abdominal pain and tenderness, nausea, vomiting, hematemesis, bloody diarrhea, anorexia, fever, abdominal swelling and septicemia.
- Oropharyngeal: a painless mucosal lesion in the oral cavity or oropharynx, cervical adenopathy and edema, pharyngitis, fever and possibly septicemia.
- Meningeal: fever, convulsions, coma, or meningeal signs. Signs of another form will likely be evident as this syndrome is usually secondary to the above syndromes.

### Laboratory criteria for diagnosis

Definitive:

- Isolation of *Bacillus anthracis* from a clinical specimen by the Laboratory Response Network (LRN), OR
- Demonstration of *B. anthracis* antigens in tissues by immunohistochemical staining using both *B. anthracis* cell wall and capsule monoclonal antibodies;
- 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 Centers for Disease Control and Prevention (CDC) quantitative anti-PA IgG ELISA testing;
- Documented anthrax environmental exposure AND evidence of *B. anthracis* DNA (for example, by LRN-validated polymerase chain reaction) in clinical specimens collected from a normally sterile site (such as blood or CSF) or lesion of other affected tissue (skin, pulmonary, reticuloendothelial, or gastrointestinal)

Suggestive laboratory evidence:

- Evidence of *B. anthracis* DNA (for example, by LRN-validated polymerase chain reaction) in clinical specimens collected from a normally sterile site (such as blood or CSF) or lesion of other affected tissue (skin, pulmonary, reticuloendothelial, or gastrointestinal);
- Positive result on testing of clinical serum specimens using the Quick ELISA Anthrax-PA kit;
- Detection of Lethal Factor (LF) in clinical serum specimens by LF mass spectrometry
- Positive result on testing of culture from clinical specimens with the RedLine Alert test.


### Case classification

Confirmed: a clinically compatible case that is laboratory confirmed

Probable: a clinically compatible case that does not meet the confirmed case definition AND with one of the following: A) Epidemiological link to a documented anthrax environmental exposure; OR B) suggestive laboratory evidence.

Suspect: A clinically compatible case suggestive of one of the know anthrax clinical forms AND NO confirmatory or suggestive laboratory evidence AND No epidemiologic evidence relating it to anthrax.

**Comment**

 Any isolates from cases or suspected cases must be sent to the Bureau of Laboratories. Detection of a suspected case is a **PUBLIC HEALTH EMERGENCY** and requires immediate reporting to the Bureau of Epidemiology at 850-245-4401. This condition has been identified as a potential bioterrorism agent by the CDC.

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## Arsenic Poisoning

reporting code = 98080  
 case report form: (09/08 v1)  
[Acute Arsenic Poisoning Case Report Form](#)

### Clinical Description

Arsenic intoxication may affect multiple organ systems. Acute exposure to toxic amounts of arsenic may include signs and symptoms such as vomiting, abdominal pain, diarrhea, light-headedness, headache, weakness, and lethargy. These signs and symptoms may rapidly lead to dehydration, hypotension, pulmonary edema, congestive heart failure and shock. Different clinical manifestations might follow, including dysrhythmias (prolonged QT, T-wave changes), altered mental status, and multisystem organ failure which may ultimately lead to death.

### Laboratory criteria for diagnosis

Elevated inorganic or total urinary arsenic levels (>50 µg/L total for a 24-hr urine) as determined by laboratory test.

If Lab results for urine are reported in µg As/g creatinine (mcg/g creat) and are >15 µg/g creatinine, then results must be converted to µg As/Liter of urine using the following formula and conversion factor.

$$\frac{\text{_____}}{\text{given}} (\mu\text{g As/g creat}) \times \frac{\text{_____}}{\text{given}} (\text{mg creat/dL}) \times 0.01 = \frac{\text{_____}}{\text{calculated}} (\mu\text{g As/Liter urine})$$

Positive total arsenic laboratory test results from specimens taken within 72 hours of consumption of seafood are **not** acceptable.

### Case classification

Confirmed: a clinically compatible case that meets the laboratory criteria for diagnosis.

Probable: a clinically compatible case in which a high index of suspicion exists (patient's exposure history regarding location and time) or the case is epidemiologic linked to a confirmed case.

### Comment

Most cases of arsenic-induced toxicity in humans are due to exposure to inorganic arsenic. Humans may be exposed to organic arsenicals used in agriculture or those found in fish and shellfish. Organic arsenic found in fish is not believed to be toxic. Total arsenic tests do not distinguish between organic and inorganic arsenic (the more toxic form). For this reason, positive total arsenic laboratory test results from specimens taken within 72 hours of consumption of seafood do not meet the laboratory criteria for diagnosis. If this person is symptomatic, please recommend to have health care provider retest after 3-5 days of no fish consumption. Because total arsenic tests do not distinguish between the organic arsenic and inorganic arsenic, speciation is recommended.

A copy of laboratory test results must accompany the paper case report form.

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## Botulism

reporting code = 00510 (Foodborne)

= 00511 (Infant)

= 00513 (Wound)

= 00512 (Other, Unspecified)

case report form: (CDC 52.50, 4/83)

[Botulism Alert Summary](#)

### Clinical description

Botulism has several distinct clinical forms:

- Foodborne: An illness caused by ingestion of botulinum toxin with variable severity. Common symptoms are diplopia, blurred vision, and bulbar weakness. Symmetric paralysis may progress rapidly.
- Infant: An illness of infants < 12 months of age, characterized by constipation, poor feeding, and “failure to thrive” that may be followed by progressive weakness, impaired respiration, and death.
- Wound: An illness resulting from toxin produced by *Clostridium botulinum* that has infected a wound. A history of a fresh, contaminated wound during the 2 weeks before onset of symptoms should be present. Common symptoms are diplopia, blurred vision, and bulbar weakness. Symmetric paralysis may progress rapidly.
- Other, Unspecified: An illness in a patient aged  $\geq 12$  months of age who has no history of ingestion of suspect food and has no wounds. Common symptoms are diplopia, blurred vision, and bulbar weakness. Symmetric paralysis may progress rapidly.

### Botulism, Foodborne

#### Clinical description

Ingestion of botulinum toxin results in an illness of variable severity. Common symptoms are diplopia, blurred vision, and bulbar weakness. Symmetric paralysis may progress rapidly.

#### Laboratory criteria for diagnosis

- Detection of botulinum toxin in a clinical specimen or food for foodborne botulism
- OR
- Isolation of *Clostridium botulinum* from a clinical specimen

#### Case classification

Confirmed: a clinically compatible case that is laboratory confirmed or occurs among persons who ate the same food as persons who have laboratory-confirmed botulism.

Probable: a clinically compatible case with an epidemiologic link (e.g., ingestion of a home-canned food within the previous 48 hours)

#### Comment

Note that this is one of the few diseases in which an epi-linked case without laboratory confirmation is considered confirmed.

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**Botulism, Infant****Clinical description**

An illness of infants, characterized by constipation, poor feeding, and “failure to thrive” that may be followed by progressive weakness, impaired respiration, and death

**Laboratory criteria for diagnosis**

- Detection of botulinum toxin in stool or serum, or
- Isolation of *Clostridium botulinum* from stool

**Case classification**

*Confirmed:* a clinically compatible case that is laboratory-confirmed, occurring in a child aged less than 1 year

**Botulism, Wound****Clinical description**

An illness resulting from toxin produced by *Clostridium botulinum* that has infected a wound. Common symptoms are diplopia, blurred vision, and bulbar weakness. Symmetric paralysis may progress rapidly.

**Laboratory criteria for diagnosis**

- Detection of botulinum toxin in serum, or
- Isolation of *Clostridium botulinum* from wound

**Case classification**

*Confirmed:* a clinically compatible case that is laboratory confirmed in a patient who has no suspected exposure to contaminated food and who has a history of a fresh, contaminated wound during the 2 weeks before onset of symptoms, or a history of injection drug use within the 2 weeks before onset of symptoms

*Probable:* a clinically compatible case in a patient who has no suspected exposure to contaminated food and who has either a history of a fresh, contaminated wound during the 2 weeks before onset of symptoms, or a history of injection drug use within the 2 weeks before onset of symptoms

**Botulism, Other****Clinical description**


An illness in a patient aged  $\geq 12$  months of age who has no history of ingestion of suspect food and has no wounds. Common symptoms are diplopia, blurred vision, and bulbar weakness. Symmetric paralysis may progress rapidly.

### Laboratory criteria for diagnosis

- Detection of botulinum toxin in clinical specimen, or
- Isolation of *Clostridium botulinum* from clinical specimen

### Case classification

*Confirmed:* a clinically compatible case that is laboratory-confirmed in a patient aged greater than or equal to 1 year who has no history of ingestion of suspect food and has no wounds

 Specimens (food or clinical) must be sent to Bureau of Laboratories for laboratory diagnosis (toxin testing) from suspected cases of botulism and must be cleared through the Bureau of Epidemiology (850) 245-4401. **Heptavalent botulinum antitoxin is available through the Bureau at the above telephone number, 24 hours per day. This condition has been identified as a potential bioterrorism agent by the CDC.**

**A copy of laboratory test results must accompany the paper case report form.**

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## Brucellosis

reporting code = 02300  
 case report form: (CDC 52.25, 1/06)  
[Brucellosis Case Surveillance Report](#)

### Clinical description

A pleomorphic illness generally characterized by acute or insidious onset of intermittent or persistent fever. Other symptoms may include night sweats, arthralgia, fatigue, anorexia, weight loss, headache, myalgia, endocarditis, orchitis, epididymitis, hepatomegaly, splenomegaly, abdominal pain, arthritis, meningitis and/or spondylitis. Pain in a single joint may be present in chronic infections; a single tissue abscess, and aneurysm in large blood vessels has also been reported.

### Laboratory criteria for diagnosis

#### Confirmed

- Isolation of *Brucella* sp. from a clinical specimen
- OR
- Fourfold or greater rise in *Brucella* agglutination titer between acute- and convalescent-phase serum specimens obtained  $\geq 2$  weeks apart and studied at the same laboratory
- OR

#### Probable

- *Brucella* total antibody titer  $\geq 160$  by standard tube agglutination test (SAT) or *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

### Case classification

Confirmed: a clinically compatible illness that is laboratory confirmed

Probable: a clinically compatible illness that is epidemiologically linked to a confirmed case OR a clinically compatible illness that meets the probably laboratory criteria for diagnosis.

### Comment

Exposure risk factors include involvement with slaughtering, dressing, or butchering of potentially infected animals such as feral hogs, consumption of unpasteurized dairy products or undercooked meat from infected animals, and laboratory exposure to *Brucella* culture without using aerosol precautions. Follow-up should occur to identify any potential exposures among laboratory staff.

 **Any available isolates of the organism must be sent to the Bureau of Laboratories for confirmation and speciation. This condition has been identified as a potential bioterrorism agent by the CDC.**

**Reporting:** Immediate; reporting triggers include confirmed or probable laboratory results, healthcare record containing a diagnosis of brucellosis, and death certificate listing brucellosis as cause of death or as a significant condition

**A copy of laboratory test results must accompany the paper case report form.**

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# Campylobacteriosis

reporting code = 03840  
case report form: N/A

## Clinical description

A diarrheal illness of variable severity.

## Laboratory criteria for diagnosis

Confirmed: Isolation of *Campylobacter* spp in a clinical specimen.

Suspect: Detection of *Campylobacter* spp in a clinical specimen using non-culture based laboratory methods.

## Case classification

Confirmed: a case that meets the confirmed laboratory criteria for diagnosis.

Probable: a clinically compatible case that is epidemiologically linked to a confirmed case of campylobacteriosis.

Suspect: a case that meets the suspect laboratory criteria for diagnosis.

## Comment

The use of non-culture methods as standalone tests for the direct detection of *Campylobacter* in stool appears to be increasing. There is limited data available about the performance characteristics of these assays. Specimens with positive non-culture test results should be culture confirmed if possible.

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# Carbon Monoxide Poisoning

reporting code = 98600

case report form: [Carbon Monoxide Poisoning Reporting Form](#)

## Clinical description

The clinical presentation of acute carbon monoxide (CO) poisoning varies depending on the duration and magnitude of exposure and between individuals with the same degree of exposure and/or the same venous carboxyhemoglobin (COHb) level. The most common signs and symptoms include headache, nausea, lethargy (or fatigue), weakness, abdominal discomfort/pain, confusion, and dizziness. Other signs and symptoms may include visual disturbances including blurred vision, numbness and tingling, ataxia, irritability, agitation, chest pain, dyspnea (shortness of breath), palpitations, seizures, and loss of consciousness.

## Laboratory criteria for diagnosis

**Biologic:** elevated carboxyhemoglobin (COHb) concentration found in blood specimen determined by laboratory tests. Elevated levels of carboxyhemoglobin should be interpreted in light of endogenous production, patient smoking status and exposures to second hand smoke.

OR

**Environmental:** detection of carbon monoxide from environmental monitoring data as provided by first responders (Fire Department, Hazmat, etc.), environmental consultants or other sources if deemed reliable.

## Case classification

### Confirmed:

A clinically compatible case which laboratory tests or pulse CO-oximetry have confirmed elevated COHb level ( $\geq 9\%$ ) **or** a case with signs and symptoms consistent with CO poisoning (in absence of clinical laboratory data), with supplementary evidence in the form of environmental monitoring data suggesting exposure from a specific poisoning source.

OR

A case with a reported blood specimen (in the absence of clinical and environmental laboratory data) with COHb level that is equal to or greater than a volume fraction of 0.12 (12%).

### Probable:

A clinically compatible case with no laboratory and/or environmental monitoring evidence of exposure with the same environmental exposure as that of a confirmed case

OR

A clinically compatible case, with no laboratory and/or environmental monitoring evidence of exposure with smoke inhalation secondary to conflagration (explosive fire).

OR

A case with a reported blood specimen of COHb level that is equal or greater than a volume fraction of 0.09 (9%) and less than a volume fraction of 0.12 (12%), ( $9\% \leq \text{COHb} \leq 12\%$ ) in the absence of compatible symptoms or environmental monitoring data.

**Suspect:**

A clinically compatible case that is not laboratory confirmed but has a history of present illness that is consistent with exposure to carbon monoxide.

**Comment****Reliable CO environmental monitoring data**

The acceptance of this data is at the discretion of the public health investigator/official. The quality of environmental monitoring data is dependant on the capabilities and limitations of the monitoring equipment and the equipment users. False positive environmental monitoring data is possible (e.g. some CO sensor technologies are known to be cross-sensitive when exposed to other chemicals such as hydrogen sulfide). Please contact Tim Wallace, Environmental Health Program Consultant, at (850)245-4288 for assistance with the interpretation of CO environmental monitoring data.

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## Cholera, *Vibrio*

reporting code = 00190 *Vibrio cholerae* Type-O1  
 case report form: (CDC 52.79, 7/00)  
[Cholera and Other \*Vibrio\* Illness Surveillance Report](#)

### Clinical description

An illness of variable severity that is characterized by diarrhea and/or vomiting; severity is variable.

### Laboratory criteria for diagnosis

- Isolation of toxigenic (i.e., cholera toxin-producing) *Vibrio cholerae* O1 or O139 from stool or vomitus,
- OR
- Serologic evidence of recent infection.

### Case classification


Confirmed: a clinically compatible illness that is laboratory confirmed

### Comment

Illnesses caused by strains of *V. cholerae* other than toxigenic *V. cholerae* O1 or O139 should not be reported as cases of cholera. The etiologic agent of a case of cholera should be reported as either *V. cholerae* O1 or *V. cholerae* O139. Toxigenic production for *V. cholerae* O1 or O139 must be performed by CDC.

### Note

Infections due to *Vibrio cholerae* non-O1 should be reported as *Vibrio*, infections (code 00198) *Vibrio cholerae*, non-O1.

 Any available isolates of the organism must be sent to the Bureau of Laboratories for confirmation and serotyping. Toxigenic production for *V. cholerae* O1 or O139 must be performed by CDC. This condition has been identified as a potential bioterrorism agent by the CDC.

**A copy of laboratory test results must accompany the paper case report form.**

Due to the outbreak of cholera in Haiti starting in fall 2010 an alternate case definition was developed; please refer to this document "[Guidance for Haiti-related Toxigenic \*Vibrio cholerae\* Type O1 Case Reporting for County Health Departments](#)" as long as a response to the Haiti cholera outbreak is occurring. The document above can be found on the web:  
[http://www.doh.state.fl.us/disease\\_ctrl/epi/Acute/cholera.htm](http://www.doh.state.fl.us/disease_ctrl/epi/Acute/cholera.htm)

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# Ciguatera Poisoning

reporting code = 98809

case report forms:

1. (CDC 52.13, 10/00) [Investigation of a Foodborne Illness Outbreak](#)
2. (5/98) [Record of Ciguatera Intoxication](#)

## Clinical description

Symptoms include abdominal cramps, nausea, vomiting, diarrhea, numbness and paresthesia of lips and tongue, paresthesias of the extremities, metallic taste, arthralgia, myalgia, blurred vision. Paradoxical temperature sensation is sometimes seen. The illness is associated with the consumption of reef or bottom-dwelling fish such as barracuda, amberjack, grouper or snapper.

## Laboratory criteria for diagnosis

- Detection of ciguatoxin in implicated fish is strongly suggestive, but is not necessary for case confirmation

## Case classification

Confirmed: A clinically compatible illness in a patient with a history of fish consumption in the 24 hours before onset of symptoms

## Comment

Even single sporadic cases should be reported as a single case outbreak to the regional environmental epidemiologist and be recorded on the case report form: *Record of Ciguatera Intoxication*. Testing for the toxin in implicated fish is available from the FDA. Contact your regional environmental epidemiologist for information.

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## Creutzfeldt-Jakob Disease (CJD)

reporting code = 04610  
 Case report form: (HSDE rev.06)  
[Creutzfeldt-Jakob Disease Work Sheet](#)

### Clinical description

A progressive uniformly fatal dementia characterized by: Myoclonus, visual or cerebellar signs, akinetic mutism and pyramidal or extrapyramidal signs,

### Laboratory criteria for diagnosis

- Standard neuropathological techniques; and/or immunocytochemically; and/or Western blot confirmed protease-resistant PrP; and/or presence of scrapie-associated fibrils conducted on brain tissue
- Analysis of tau or 14-3-3 proteins in CSF consistent with prion disease
- Periodic sharp and slow wave complexes (PSWC) in EEG (Test suggestive but not specific for CJD)

### Case classification

**Confirmed:** A fatal outcome with a clinically compatible illness diagnosed by standard neuropathological techniques; and/or immunocytochemically; and/or Western blot confirmed protease-resistant PrP; and/or presence of scrapie-associated fibrils.

**Probable:** A fatal outcome with a progressive dementia; and at least two out of the following four clinical features:

- Myoclonus
- Visual or cerebellar signs
- Pyramidal/extrapyramidal signs
- Akinetic mutism

AND

- A clinical duration of death <2 years WITH
- A typical EEG during; and/or a tau or 14-3-3 CSF assay results consistent with prion disease
- Routine investigations should not suggest an alternative diagnosis

**Suspect:** A fatal outcome with a progressive dementia; and at least two out of the following four clinical features:

- Myoclonus
- Visual or cerebellar signs
- Pyramidal/extrapyramidal signs
- Akinetic mutism

AND

- No EEG or atypical EEG and a clinical duration to death of < 2 years

### Comment

Cases under the age of 55 years old should be evaluated for the variant form of CJD. Brain tissue for diagnosis and CSF for the tau and 14-3-3 protein should be sent to the National Prion Disease Pathology Surveillance Center at Case Western Reserve University. Information about the center, shipping and mailing instructions can be found on their web site: <http://www.cjdsurveillance.com>. Please notify BOE to assist with case evaluation and laboratory testing.

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# Cryptosporidiosis

reporting code = 13680

case report form: [Risk Factors for Cryptosporidium](#)

## Clinical description

An illness characterized by watery diarrhea, abdominal cramps, loss of appetite (anorexia), low-grade fever, nausea, and vomiting; infected persons may be asymptomatic.

## Laboratory criteria for diagnosis

*Confirmed:* The detection of *Cryptosporidium* organisms or DNA in stool, intestinal fluid, tissue samples, biopsy specimens, or other biological sample.\*

*Probable:* The detection of *Cryptosporidium* antigen by immunodiagnostic methods. \*\*

\* The confirmed laboratory criteria include detection of *Cryptosporidium* by established laboratory methods (e.g., direct fluorescent antibody [DFA] test or polymerase chain reaction [PCR]).

\*\* Test results known to be obtained with commercially-available immunochromatographic card tests are limited to meeting "probable" case criteria due to a recent report of unacceptably high rates of false-positive results (Clin Infect Dis. 2010 Apr 15;50(8):e53-55).

## Case classification

Confirmed: a case that meets the clinical description AND meets the laboratory-confirmed criteria above.

Probable: a clinically compatible case and has probable criteria for laboratory diagnosis or that is epidemiologically linked to a confirmed case.

## Comment

The disease can be prolonged and life-threatening in severely immunocompromised persons. When available, species designation and molecular characterization should be reported.

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# Cyclosporiasis

reporting code = 00720  
case report form: (CDC 54.48, 9/02)  
[Cyclosporiasis Case Report Form](#)

## Clinical description

An illness of variable severity caused by the protozoan *Cyclospora cayetanensis* and commonly characterized by watery diarrhea (most common), loss of appetite, weight loss, abdominal bloating and cramping, increased flatus, nausea, and fatigue. Vomiting and low-grade fever also may be noted. Relapses and asymptomatic infections can occur.

## Laboratory criteria for diagnosis

- Demonstration of *Cyclospora* oocysts (by morphologic criteria or by demonstration of sporulation) in stool, duodenal/jejunal aspirates or small-bowel biopsy.

OR

- Demonstration of *Cyclospora* DNA (by polymerase chain reaction) in stool, duodenal/jejunal aspirates or small-bowel biopsy.

## Case classification

Confirmed: a case that is laboratory confirmed.

Probable: a clinically compatible case that is epidemiologically linked to a confirmed case.

## Comment

 **Permanent slides from reported and suspect cases must be sent to the Bureau of Laboratories.**

**A copy of laboratory test results must accompany the paper case report form.**

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## Dengue Fever

reporting code = 06100  
 case report form: (HSDE, 8/08)  
[Vector-borne Disease Infection Case Report](#)

### Clinical description

Dengue fever (DF) is most commonly an acute febrile illness defined by the presence of fever and two or more of the following, retro-orbital or ocular pain, headache, rash, myalgia, arthralgia, leukopenia, or hemorrhagic manifestations (e.g., positive tourniquet test, petechiae; purpura/ecchymosis; epistaxis; gum bleeding; blood in vomitus, urine, or stool; or vaginal bleeding) but not meeting the case definition of dengue hemorrhagic fever. Anorexia, nausea, abdominal pain, and persistent vomiting may also occur but are not case-defining criteria for DF.

Dengue hemorrhagic fever (DHF) is characterized by all of the following:

- Fever lasting from 2-7 days
- Evidence of hemorrhagic manifestation or a positive tourniquet test
- Thrombocytopenia ( $\leq 100,000$  cells per  $\text{mm}^3$ )
- Evidence of plasma leakage shown by hemoconcentration (an increase in hematocrit  $\geq 20\%$  above average for age or a decrease in hematocrit  $\geq 20\%$  of baseline following fluid replacement therapy), or pleural effusion, or ascites or hypoproteinemia
- Dengue shock syndrome (DSS) has all of the criteria for DHF plus circulatory failure as evidenced by:
  - Rapid and weak pulse and narrow pulse pressure ( $< 20$  mm Hg) OR
  - Age-specific hypotension and cold, clammy skin and restlessness.

### Laboratory criteria for diagnosis

#### Confirmatory

- a. Isolation of virus from or demonstration of specific arboviral antigen or genomic sequences in tissue, blood, cerebrospinal fluid (CSF), or other body fluid by polymerase chain reaction (PCR) test, immunofluorescence, or immunohistochemistry, OR
- b. Seroconversion from negative for dengue-specific serum IgM antibody in an acute phase ( $\leq 5$  days after symptom onset) specimen to positive for dengue-specific serum IgM antibodies in a convalescent-phase specimen collected  $\geq 5$  days after symptom onset, OR
- c. Demonstration of a  $\geq 4$ -fold rise in reciprocal IgG antibody titer or hemagglutination inhibition titer to dengue antigens in paired acute and convalescent serum samples, OR
- d. Demonstration of a  $\geq 4$ -fold rise in PRNT (plaque reduction neutralization test) end point titer (as expressed by the reciprocal of the last serum dilution showing a 90% reduction in plaque counts compared to the virus infected control) between dengue viruses and other flaviviruses tested in a convalescent serum sample, OR
- e. Virus-specific immunoglobulin M (IgM) antibodies demonstrated in CSF.

#### Supportive

A positive IgM antibody test on a single acute (late)- or convalescent-phase serum specimen to one or more dengue virus antigens).

## Criteria for Epidemiologic Linkage

- Travel to a dengue endemic country or presence at a location with an ongoing outbreak within previous two weeks of dengue-like illness OR
- Association in time and place with a confirmed or probable dengue case

## Case classification

**Confirmed:** a clinically compatible case that is laboratory confirmed

**Probable:** a clinically compatible case with supportive serologic findings

**Suspect:** a clinically compatible case with both epidemiologic linkage criteria.

## Comment

Dengue hemorrhagic fever is defined as an acute febrile illness with minor or major bleeding phenomena, thrombocytopenia (platelet count  $<100,000/\text{mm}^3$ ), and evidence of plasma leakage documented by hemoconcentration (hematocrit increased by  $>20\%$ ) or other objective evidence of increased capillary permeability. The definition of dengue shock syndrome follows all of the above criteria for dengue hemorrhagic fever and also includes hypotension or narrow pulse pressure ( $<20$  mm Hg).

Guide to Interpretation and Classification of Common Dengue Laboratory Tests

Laboratory test	Days post-onset of sample collection	Interpretation of positive result	Explanation
Real Time-PCR	$\leq 5$ days	Confirmatory (*Note)	Patient viremic while febrile; days 0-7
IgM (paired specimens, acute and convalescent)	$\leq 5$ days for acute specimen, $> 5$ days for convalescent. (ideally 2 weeks apart)	Confirmatory	Negative IgM in an acute specimen followed by a positive IgM in a convalescent specimen
IgG (paired specimens, acute and convalescent)	$\leq 5$ days for acute specimen, $> 5$ days for convalescent. (ideally 2 weeks apart)	Confirmatory	Must be 4 fold increase in titer between acute and convalescent specimen
IgM (single serum specimen)	$> 5$ days	Probable	IgM can remain positive for $\geq 3$ months in cases of acute dengue infection
*Note: Only PCR for dengue or IgM ELISA-based antibody test can be used for diagnosis of dengue in single serum specimens			
NB: Previous flavivirus infections and the high prevalence of dengue IgG antibody in some population (e.g., those resident in, or long-term visitors of dengue endemic countries) complicate interpretation of dengue serological test results. Therefore, a single serum sample tested using a dengue-specific IgG or combined IgM/IgG ("all antibody") test is generally not helpful for diagnosis of confirmed or probable cases of dengue. For this reason suspect cases are defined clinically and epidemiologically, without IgG or combined IgG/IgM serological testing. If only a single serum sample is available for testing, a test for dengue-specific IgM antibody is preferred.			

**Acute and convalescent sera from reported and suspect cases should be acquired and sent to the Bureau of Laboratories.**

**A copy of laboratory test results must accompany the paper case report form.**

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## Diphtheria

reporting code = 03290  
case report form: (CDC 4.124, 5/98)  
[CDC Diphtheria Worksheet](#)

### Clinical description

An upper-respiratory tract illness characterized by sore throat, low-grade fever, and an adherent membrane of the tonsil(s), pharynx, and/or nose

### Laboratory criteria for diagnosis

- Isolation of *Corynebacterium diphtheriae* from a clinical specimen
- OR
- Histopathologic diagnosis of diphtheria


### Case classification

Confirmed: a clinically compatible case that is either laboratory confirmed or epidemiologically linked to a laboratory confirmed case

Probable: a clinically compatible case that is not laboratory confirmed and is not epidemiologically linked to a laboratory confirmed case

### Comment

Respiratory disease caused by non-toxicogenic *C. diphtheriae* should be reported as diphtheria.

 **All diphtheria isolates, regardless of association with disease, must be sent to the Bureau of Laboratories.**

*Questions regarding the follow-up of a diphtheria case should be directed to the Department of Health, Bureau of Immunization program representative at (850) 245-4342.*

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## Ehrlichiosis/Anaplasmosis, Human

reporting code = 08381 Ehrlichiosis/Anaplasmosis, HGE, *A. phagocytophilum*  
 reporting code = 08382 Ehrlichiosis/Anaplasmosis, HME, *E. chaffeensis*  
 reporting code = 08383 Ehrlichiosis/Anaplasmosis, *E. ewingii*  
 reporting code = 08384 Ehrlichiosis/Anaplasmosis, undetermined  
 case report form: (CDC 55.1, 1/08)  
[Tick-Borne Rickettsial Disease Case Report](#)

### Clinical description

A tick-borne illness characterized by acute onset of fever and one or more of the following symptoms or signs: headache, myalgia, anemia, leukopenia, thrombocytopenia, elevated hepatic transaminases, nausea, vomiting, or rash. Intracytoplasmic bacterial aggregates (morulae) may be visible in the leukocytes of some patients.

### Laboratory criteria for diagnosis

For the purposes of surveillance,

#### 1. *Ehrlichia chaffeensis* infection (formerly included in the category Human Monocytic Ehrlichiosis [HME]):

##### Ehrlichiosis [HME]:

##### Laboratory confirmed:

- Serological evidence of a fourfold change in immunoglobulin G (IgG)-specific antibody titer to *E. chaffeensis* antigen by indirect immunofluorescence assay (IFA) between paired serum samples (one taken in first week of illness and a second 2-4 weeks later)

OR

- Detection of *E. chaffeensis* specific DNA in a clinical specimen via polymerase chain reaction (PCR) assay

OR

- Demonstration of *E. chaffeensis* antigen in a biopsy or autopsy sample by immunohistochemical (IHC) methods

OR

- Isolation of *E. chaffeensis* from a clinical specimen in cell culture.

##### Laboratory supportive:

- Serological evidence of elevated IgG or IgM antibody reactive with *E. chaffeensis* antigen by IFA, enzyme-linked immunosorbent assay (ELISA), dot-ELISA, or assays in other formats (CDC uses an IFA IgG cutoff of >1:64 and does not use IgM test results independently as diagnostic support criteria.)

OR

- Identification of morulae in the cytoplasm of monocytes or macrophages by microscopic examination

#### 2. *Ehrlichia ewingii* infection (formerly included in the category Ehrlichiosis [unspecified, or other agent]):

##### Laboratory confirmed:

- Because the organism has never been cultured, antigens are not available. Thus, *Ehrlichia ewingii* infections may only be diagnosed by molecular detection methods: *E. ewingii* DNA detected in a clinical specimen via amplification of a specific target by polymerase chain reaction (PCR) assay

#### 3. *Anaplasma phagocytophilum* infection (formerly included in the category Human Granulocytic Ehrlichiosis [HGE]):

##### Laboratory confirmed:

- Serological evidence of a fourfold change in IgG-specific antibody titer to *A. phagocytophilum* antigen by indirect immunofluorescence assay (IFA) in paired serum samples (one taken in first week of illness and a second 2-4 weeks later)

OR

- Detection of *A. phagocytophilum* DNA in a clinical specimen via amplification of a specific target by polymerase chain reaction (PCR) assay

OR

- Demonstration of anaplasma antigen in a biopsy/autopsy sample by immunohistochemical methods

OR

- Isolation of *A. phagocytophilum* from a clinical specimen in cell culture

#### **Laboratory supportive:**

- Serological evidence of elevated IgG or IgM antibody reactive with *A. phagocytophilum* antigen by IFA, enzyme-linked immunosorbent Assay (ELISA), dot-ELISA, or assays in other formats (CDC uses an IFA IgG cutoff of  $\geq 1:64$  and does not use IgM test results independently as diagnostic support criteria.)

OR

- Identification of morulae in the cytoplasm of neutrophils or eosinophils by microscopic examination

#### **4. Human ehrlichiosis/anaplasmosis – undetermined:**

- See case classification

### **Exposure**

Exposure is defined as having been in potential tick habitats within the past 14 days before onset of symptoms. A history of a tick bite is not required.

### **Case classification**

Confirmed: A clinically compatible case (meets clinical evidence criteria) that is laboratory confirmed.

Probable: A clinically compatible case (meets clinical evidence criteria) that has supportive laboratory results. 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 ehrlichia/anaplasma infection, but not with sufficient clarity to definitively place it in one of the categories previously described. This may include the identification of morulae in white cells by microscopic examination in the absence of other supportive laboratory results.

Suspect: A case with laboratory evidence of past or present infection but no clinical information available (e.g., a laboratory report).

### **Comment**

There are at least three species of bacteria, all intracellular, responsible for ehrlichiosis/ anaplasmosis in the United States: *Ehrlichia chaffeensis*, found primarily in monocytes, and *Anaplasma phagocytophilum* and *Ehrlichia ewingii*, found primarily in granulocytes. The clinical signs of disease that result from infection with these agents are similar, and the range distributions of the agents overlap, so testing for one or more species may be indicated. Serologic cross-reactions may occur among tests for these etiologic agents.

Four sub-categories of confirmed or probable ehrlichiosis/anaplasmosis should be reported: 1) human ehrlichiosis caused by *Ehrlichia chaffeensis*, 2) human ehrlichiosis caused by *E. ewingii*, 3) human anaplasmosis caused by *Anaplasma phagocytophilum*, or 4) human ehrlichiosis/anaplasmosis - undetermined. Cases reported in the fourth sub-category can only be reported as “probable” because the cases are only weakly supported by ambiguous laboratory test results. Problem cases for which

sera demonstrate elevated antibody IFA responses to more than a single infectious agent are usually resolvable by comparing the levels of the antibody responses, the greater antibody response generally being that directed at the actual agent involved. Tests of additional sera and further evaluation via the use of PCR, IHC, and isolation via cell culture may be needed for further clarification. Cases involving persons infected with more than a single etiologic agent, while possible, are extremely rare and every effort should be undertaken to resolve cases that appear as such (equivalent IFA antibody titers) via other explanations.

Current commercially available ELISA tests are not quantitative, cannot be used to evaluate changes in antibody titer, and hence are not useful for serological confirmation. Furthermore, IgM tests are not always specific and the IgM response may be persistent. Therefore, IgM tests are not strongly supported for use in serodiagnosis of acute disease.

**Acute and convalescent sera from reported and suspect cases should be acquired on all cases and sent to the Bureau of Laboratories.**

**Reporting:** Next business day; triggers for reporting include: any cases with compatible clinical and laboratory evidence or ehrlichiosis or anaplasmosis, healthcare records that contain a diagnosis of ehrlichiosis or anaplasmosis, or a death certificate that lists ehrlichiosis or anaplasmosis as cause of death or a significant condition

**A copy of laboratory test results must accompany the paper case report form.**

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## Encephalitis, Other (Non-arboviral)

reporting code = 03236  
case report form: N/A

### Clinical description

An illness in which encephalitis is the major manifestation. Symptoms are due to direct invasion and replication of the infectious agent in the central nervous system, resulting in objective clinical evidence of cerebral or cerebellar dysfunction. Symptoms may include headache, fever, nuchal rigidity, altered consciousness, confusion, stupor, coma, seizures, motor weakness, or accentuated deep tissue reflexes. Postinfectious (or parainfectious) encephalitis is excluded.

### Case classification

Confirmed: a clinically compatible illness diagnosed by a physician as primary encephalitis

### Comment

Laboratory studies are important in clinical diagnosis but are not required for reporting purposes. Examples of viruses that may cause encephalitis include herpes simplex, coxsackie virus, or other enterovirus.

Cases of encephalitis due to arboviral infection or infection by a vaccine preventable disease should be assessed using those specific case definitions and reported under those disease codes, not here. Encephalitis, other is reserved for cases of primary encephalitis that are not categorized under one of the already reportable disease or conditions.

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## **Escherichia coli, Shiga-Toxin Producing (STEC)**

reporting code= 00800  
 case report form: (HSDE, 2/10)  
[E. coli Case Report](#)  
 MERLIN ELECTRONIC SUBMISSION

### **Clinical description**

An infection of variable severity characterized by diarrhea (often bloody) and abdominal cramps. Illness may be complicated by hemolytic uremic syndrome (HUS) or thrombotic thrombocytopenic purpura (TTP); asymptomatic infections also may occur and the organism may cause extraintestinal infections.

### **Laboratory criteria for diagnosis**

Isolation of Shiga toxin-producing *Escherichia coli* (STEC) from a clinical specimen. *Escherichia coli* O157:H7 isolates may be assumed to be Shiga toxin-producing. For all other *E. coli* isolates, Shiga toxin production or the presence of Shiga toxin genes must be determined to be considered STEC.

### **Case classification**

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.

Suspect: a case of postdiarrheal HUS or TTP (see HUS case definition), or identification of Shiga toxin in a specimen from a clinically compatible case without the isolation of the Shiga toxin-producing *E. coli*.

### **Comment**

Both asymptomatic infections and infections at sites other than the gastrointestinal tract, if laboratory confirmed, are considered confirmed cases that should be reported.

### **Note**

Patients with *E. coli* who develop HUS should be reported in Merlin with BOTH disease codes (as if they were two separate cases). A laboratory result that reports only "*E. coli*" does not indicate pathogenic *E. coli*.

**Isolates from all cases of *E. coli* O157:H7 must be sent to the Bureau of Laboratories for confirmation and PFGE typing. All Shiga toxin-positive specimens should be sent to the Bureau of Laboratories for confirmation and additional testing.** There is a strong possibility that Shiga toxin may degrade in transit. A person with any positive Shiga toxin result and no other enteric pathogens detected should be reported as a suspect case in Merlin, regardless of whether Shiga toxin is confirmed by the Bureau of Laboratories.

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## Giardiasis

reporting code = 00710  
case report form: N/A

### Clinical description

An illness caused by the protozoan *Giardia lamblia* (aka *G. intestinalis* or *G. duodenalis*) and characterized by diarrhea, abdominal cramps, bloating, weight loss, or malabsorption.

### Laboratory criteria for diagnosis

- Demonstration of *G. lamblia* cysts in stool
- OR
- Demonstration of *G. lamblia* trophozoites in stool, duodenal fluid, or small-bowel biopsy
- OR
- Demonstration of *G. lamblia* antigen in stool by a specific immunodiagnostic test (e.g., enzyme-linked immunosorbent assay)
- OR
- Detection of Giardia DNA in stool intestinal fluid, tissue samples, biopsy specimens or other biological sample

### Case classification

Confirmed: a case that meets the clinical description and the criteria for laboratory confirmation.

Probable: a clinically compatible case that is epidemiologically linked to a confirmed case

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## **Glanders (*Burkholderia mallei*)**

reporting code = 02400

case report form: N/A

### **Clinical description**

The types of infection include localized, pus forming cutaneous infections, pulmonary infections, bloodstream infections, and chronic suppurative infections of the skin. Generalized symptoms of glanders include fever, muscle aches, chest pain, muscle tightness, and headache. Additional symptoms have included excessive tearing of the eyes, light sensitivity, and diarrhea.

- Localized infections: If there is a cut or scratch in the skin, a localized infection with ulceration will develop within 1 to 5 days at the site where the bacteria entered the body. Swollen lymph nodes may also be apparent. Infections involving the mucous membranes in the eyes, nose, and respiratory tract will cause increased mucous production from the affected sites.
- Pulmonary infections: In pulmonary infections, pneumonia, pulmonary abscesses, and pleural effusion can occur. Chest X-rays will show localized infection in the lobes of the lungs.
- Bloodstream infections: Glanders bloodstream infections are usually fatal within 7 to 10 days.

### **Laboratory criteria for diagnosis**

- Isolation of *Burkholderia mallei* from blood, sputum, urine, or skin lesions. Serologic assays are not available.

### **Case classification**

Confirmed: a clinically compatible case that is laboratory confirmed

### **Comment**

 **Isolates from all cases must be sent to the Bureau of Laboratories. This condition has been identified as a potential bioterrorism agent by the CDC.**

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## **Haemophilus influenzae (Invasive Disease)**

reporting code= 03841  
case report form: (CDC 52.15A, 12/07)  
[Active Bacterial Core Surveillance Case Report](#)  
**MERLIN ELECTRONIC SUBMISSION**

### **Clinical description**

Invasive disease caused by *Haemophilus influenzae* may produce any of several clinical syndromes, including meningitis, bacteremia, epiglottitis, or pneumonia.

### **Laboratory criteria for diagnosis**

- Isolation of *H. influenzae* from a normally sterile site (e.g., blood or cerebrospinal fluid [CSF] or, less commonly, joint, pleural, or pericardial fluid)


### **Case classification**

Confirmed: a clinically compatible case that is laboratory confirmed

Probable: a clinically compatible case with detection of *H. influenzae* type b antigen in CSF

### **Comment**

Cases of all ages should be reported. Serotype should be determined for all *Haemophilus influenzae* isolates because Hib vaccines protect against serotype b organisms only. This testing is especially important for children <15 years of age to determine possible vaccine failure or failure to vaccinate. Positive antigen test results from urine or serum samples are unreliable for diagnosis of *H. influenzae* disease. Sputum cultures are not confirmatory as sputum is not obtained from a sterile site.

 **Isolates from cases, especially those under the age of 15 years, must be sent to the Bureau of Laboratories for typing to determine if they are type b.**

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## Hansen's Disease (Leprosy)

reporting code = 03090  
case report form: (CDC 52.18, 6/93)  
[Leprosy Surveillance Report](#)

### Clinical description

A chronic bacterial disease characterized by the involvement primarily of skin as well as peripheral nerves and the mucosa of the upper airway. Clinical forms of Hansen disease represent a spectrum reflecting the cellular immune response to *Mycobacterium leprae*. The following characteristics are typical of the major forms of the disease:

- *Tuberculoid*: one or a few well-demarcated, hypopigmented, and anesthetic skin lesions, frequently with active, spreading edges and a clearing center; peripheral nerve swelling or thickening also may occur
- *Lepromatous*: a number of erythematous papules and nodules or an infiltration of the face, hands, and feet with lesions in a bilateral and symmetrical distribution that progress to thickening of the skin
- *Borderline* (dimorphous): skin lesions characteristic of both the tuberculoid and lepromatous forms
- *Indeterminate*: early lesions, usually hypopigmented macules, without developed tuberculoid or lepromatous features

### Laboratory criteria for diagnosis

- Demonstration of acid-fast bacilli in skin or dermal nerve, obtained from the full-thickness skin biopsy of a lepromatous lesion

### Case classification

Confirmed: a clinically compatible case that is laboratory confirmed

### Comment

There are no serological tests or skin test other than a biopsy of a lepromatous lesion. Testing can be completed at the National Hansen's Disease Program Clinical Laboratory. Contact the BOE for assistance with case assessment and laboratory testing. Information can be viewed at:

<http://www.hrsa.gov/hansens/clinical/diagnostics/biopsy.htm>.

**A copy of laboratory test results must accompany the paper case report form.**

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## Hantavirus Infection (Hantavirus Pulmonary Syndrome)

reporting code = 07869

case report form: (CDC, 6/98) [Hantavirus Pulmonary Syndrome Case Report](#)

**MERLIN ELECTRONIC SUBMISSION**

### Clinical description

Hantavirus pulmonary syndrome (HPS), commonly referred to as hantavirus disease, is a febrile illness characterized by bilateral interstitial pulmonary infiltrates and respiratory compromise usually requiring supplemental oxygen and clinically resembling acute respiratory disease syndrome (ARDS). The typical prodrome consists of fever, chills, myalgia, headache, and gastrointestinal symptoms. Typical clinical laboratory findings include hemoconcentration, left shift in the white blood cell count, neutrophilic leukocytosis, thrombocytopenia, and circulating immunoblasts.

### Clinical case definition

An illness characterized by one or more of the following clinical features:

- A febrile illness (i.e., temperature  $>101.0^{\circ}\text{F}$  [ $>38.3^{\circ}\text{C}$ ]) in a previously healthy person with bilateral diffuse interstitial edema or clinical diagnosis of acute respiratory distress syndrome (ARDS), or radiographic evidence of noncardiogenic pulmonary edema
- An unexplained respiratory illness resulting in death

### Laboratory criteria for diagnosis

- Detection of hantavirus-specific IgM or rising titers of hantavirus-specific IgG
- OR
- Detection of hantavirus-specific RNA sequence by polymerase chain reaction in clinical specimens,
- OR
- Detection of hantavirus antigen by immunohistochemistry in lung biopsy or autopsy tissues

### Case classification

Confirmed: a clinically compatible case that is laboratory confirmed

### Comment

Because the clinical illness is nonspecific and ARDS is common, a screening case definition can be used to determine which patients to test. In general, a predisposing medical condition (e.g., chronic pulmonary disease, malignancy, trauma, burn, and surgery) is a more likely cause of ARDS than HPS, and patients who have these underlying conditions and ARDS need not be tested for hantavirus. Risk factors are contact with rodents in the 6 weeks prior to onset.



**Any available specimens must be sent to the Bureau of Laboratories for confirmatory testing. Requests for clinical specimens to be sent to the CDC for diagnostic testing must be cleared through the Bureau of Epidemiology and assigned a tracking number; specimens must be routed through the Bureau of Laboratories. This condition has been identified as a potential bioterrorism agent by the CDC.**

**Reporting: Immediate; criteria for reporting include clinically compatible illness, health record contains a diagnosis of hantavirus pulmonary syndrome, or death certificate lists hantavirus pulmonary syndrome as cause of death or significant condition.**

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## Hemolytic Uremic Syndrome (HUS)

reporting code = 42000

case report form: N/A

### Clinical description

Hemolytic uremic syndrome (HUS) is characterized by the acute onset of microangiopathic hemolytic anemia, renal injury, and low platelet count. Thrombotic thrombocytopenic purpura (TTP) also is characterized by these features but can include central nervous system (CNS) involvement and fever and may have a more gradual onset. Most cases of HUS (but few cases of TTP) occur after an acute gastrointestinal illness (usually diarrheal).

### Laboratory criteria for diagnosis

The following are both present at some time during the illness:

- Anemia (acute onset) with microangiopathic changes (i.e., schistocytes, burr cells, or helmet cells) on peripheral blood smear

AND

- Renal injury (acute onset) evidenced by either hematuria, proteinuria, or elevated creatinine level (i.e.,  $\geq 1.0$  mg/dL in a child aged  $<13$  years or  $\geq 1.5$  mg/dL in a person aged  $\geq 13$  years, or  $\geq 50\%$  increase over baseline)

Note: A low platelet count can usually, but not always, be detected early in the illness, but it may then become normal or even high. If a platelet count obtained within 7 days after onset of the acute gastrointestinal illness is not  $<150,000/\text{mm}^3$ , other diagnoses should be considered.

### Case classification

Confirmed: an acute illness diagnosed as HUS or TTP that both meets the laboratory criteria and began within 3 weeks after onset of an episode of acute or bloody diarrhea.

Probable:

- An acute illness diagnosed as HUS or TTP that meets the laboratory criteria in a patient who does not have a clear history of acute or bloody diarrhea in preceding 3 weeks.

OR

- An acute illness diagnosed as HUS or TTP, that a) has onset within 3 weeks after onset of an acute or bloody diarrhea and b) meets the laboratory criteria except that microangiopathic changes are not confirmed.

### Comment

Some investigators consider HUS and TTP to be part of a continuum of disease. Therefore, criteria for diagnosing TTP on the basis of CNS involvement and fever are not provided because cases diagnosed clinically as postdiarrheal TTP also should meet the criteria for HUS. These cases are reported as postdiarrheal HUS.

Most diarrhea-associated HUS is caused by Shiga toxin-producing *Escherichia coli* (STEC), most commonly *E. coli* O157.

If a patient meets the case definition for both Shiga toxin-producing *E. coli* (STEC) (Merlin code = 00800) and HUS (Merlin code = 4200), the case should be reported for each of the conditions (as if they were separate cases) in Merlin.

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## Hepatitis A

reporting code = 07010  
case report form: (CDC 53.1, 8/01)  
[Viral Hepatitis Case Report](#)  
**MERLIN ELECTRONIC SUBMISSION**

### Clinical case definition

An acute illness with a) discrete onset of symptoms **and** b) jaundice **or** elevated serum aminotransferase levels. Symptoms most commonly include: fever, malaise, anorexia, nausea and abdominal discomfort, followed in a few days by jaundice.

### Laboratory criteria for diagnosis

IgM antibody to hepatitis A virus (anti-HAV) positive

### Case classification

Confirmed: a clinically compatible case that is laboratory confirmed  
OR

a clinically compatible case that occurs in a person who has an epidemiologic link with a person who has laboratory confirmed hepatitis A (i.e., household or sexual contact with an infected person during the 15–50 days before the onset of symptoms)

Probable: a clinically compatible case that is hepatitis A IgM positive, lacks jaundice or elevated liver enzymes, but has discrete onset of other appropriate symptoms.

### Comment

Report liver enzyme results for all cases where these are available.

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## Hepatitis B, Acute

reporting code = 07030  
 case report form: (CDC 53.1, 8/01)  
[Viral Hepatitis Case Report](#)  
**MERLIN ELECTRONIC SUBMISSION**

### Clinical case definition

An acute illness with a) discrete onset of symptoms **and** b) jaundice **or** elevated serum aminotransferase levels. Symptoms most commonly include: anorexia, vague abdominal discomfort, nausea and vomiting. Only a small proportion of acute hepatitis B infections will be clinically recognized.

### Laboratory criteria for diagnosis

1. IgM antibody to hepatitis B core antigen (anti-HBc) positive (if done)  
OR  
hepatitis B surface antigen (HBsAg) positive
- AND
2. IgM anti-HAV negative (if done)

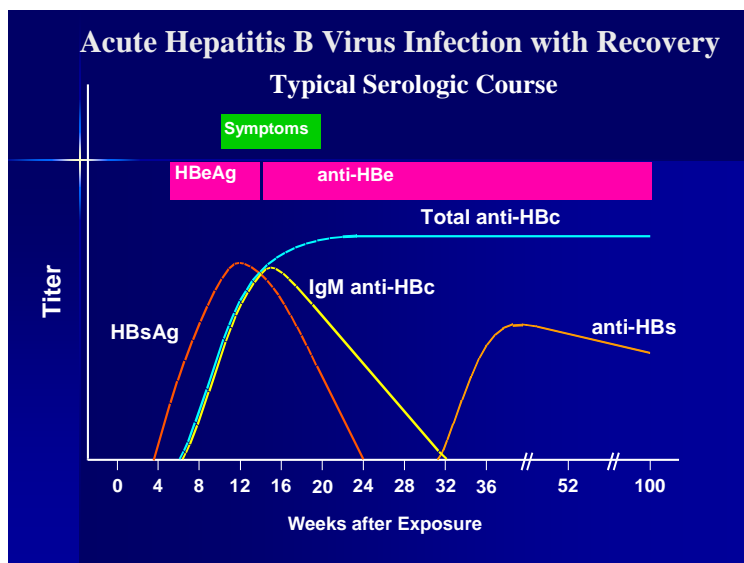
### Case classification

**Confirmed:** a case that meets the clinical case definition and is laboratory confirmed

**Probable:** a case that is IgM anti-HBc positive, lacks jaundice or elevated liver enzymes, but has discrete onset and other appropriate symptoms. Probable cases also include patients who have a discrete onset of symptoms, have a positive HBsAg and are epidemiologically linked to a confirmed acute Hepatitis B case.

### Comment

Persons who have chronic hepatitis or persons identified as HBsAg positive should not be reported as having acute viral hepatitis unless they have evidence of an acute illness compatible with viral hepatitis. Report liver enzyme results for all cases in Merlin when available.



### Note

A table for assisting with interpreting hepatitis B serology can be found on the CDC site:

<http://www.cdc.gov/ncidod/diseases/hepatitis/b/Bserology.htm>

See information below for additional information related to the serological course of disease.

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## Hepatitis B, Chronic

reporting code = 07032  
 case report form: (CDC 53.1, 8/01)  
[Viral Hepatitis Case Report](#)  
 MERLIN ELECTRONIC SUBMISSION

### Clinical case definition

Persons with chronic hepatitis B infection may have no evidence of liver disease or may have a spectrum of disease ranging from chronic hepatitis to cirrhosis or liver cancer. Persons with chronic infection may be asymptomatic.

### Laboratory criteria for diagnosis

- IgM antibodies to hepatitis B core antigen (anti-HBc) negative AND a positive result on one of the following tests: hepatitis B surface antigen (HBsAg), hepatitis B e antigen (HBeAg), or hepatitis B virus (HBV) DNA

OR

- HBsAg positive, or HBV DNA positive, or HBeAg positive two times at least 6 months apart (any combination of these tests performed six months apart is acceptable)

### Case classification

Confirmed: A case that is laboratory confirmed.

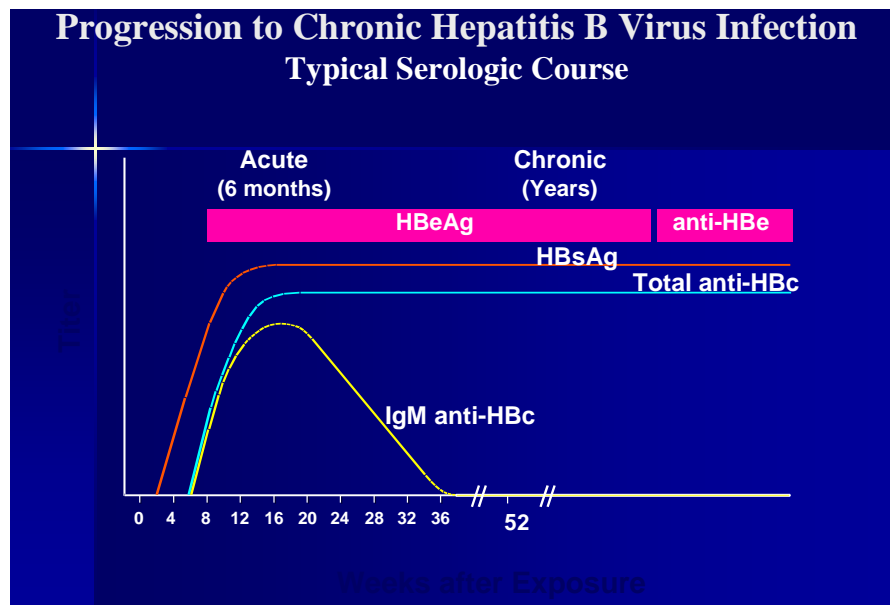
Probable: A case with a single HBsAg positive, HBV DNA positive, or HBeAg positive lab result, when no anti-HBc results are available; and does not meet the case definition for hepatitis B, acute.

### Note

A table for assisting in interpreting hepatitis B serology can be found on the CDC site below:

<http://www.cdc.gov/ncidod/diseases/hepatitis/b/Bserology.htm>

See information below for additional information related to the serological course of disease.



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## Hepatitis B Surface Antigen (HBsAg+), in Pregnant Women

reporting code = 07039

case report form: (CDC 53.1, 8/01)

[Viral Hepatitis Case Report](#)

MERLIN ELECTRONIC SUBMISSION

### **Clinical case definition**

Acute or chronic illness, regardless of symptomatology, in which a woman tests positive for hepatitis B surface antigen (HBsAg) during pregnancy.

### **Laboratory criteria for diagnosis**

Positive Hepatitis B surface antigen (HBsAg) result

### **Case classification**

Confirmed: a case that meets the clinical case definition and is laboratory confirmed

### **Note**

Mothers under this disease code (07039) should also be reported under disease codes for acute Hepatitis B (07030) or chronic Hepatitis B (07032) as appropriate.

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## Hepatitis B, Perinatal

reporting code = 07744  
case report form: (CDC 53.1, 8/01)  
[Viral Hepatitis Case Report](#)  
MERLIN ELECTRONIC SUBMISSION

### Clinical description

Perinatal hepatitis B in the newborn may range from asymptomatic to fulminant hepatitis.

### Laboratory criteria

- Hepatitis B surface antigen (HBsAg) positive

### Case classification

Confirmed: HBsAg positivity in any infant aged >1–24 months who was born in the United States or in U.S. territories to an HBsAg-positive mother

### Comment

Infants born to HBsAg-positive mothers should receive hepatitis B immune globulin (HBIG) and the first dose of hepatitis B vaccine within 12 hours of birth, followed by the second and third doses of vaccine at 1 and 6 months of age, respectively. Post vaccination testing for HBsAg and antibody to hepatitis B surface antigen (anti-HBsAg) is recommended from 3 to 6 months following completion of the vaccine series. If HBIG and the initial dose of vaccine are delayed for >1 month after birth, testing for HBsAg may determine if the infant is already infected.

### Note

If the mother of a child reported under this code was a resident of Florida during the pregnancy, the mother should be reported as HBsAg+ in a pregnant woman, code 07039.

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## Hepatitis C, Acute

reporting code = 07051  
 case report form: (CDC 53.1, 8/01)  
[Viral Hepatitis Case Report](#)  
**MERLIN ELECTRONIC SUBMISSION**

### Clinical case definition

An acute illness with a) discrete onset of symptoms **and** b) jaundice **or** serum alanine aminotransferase levels > 400 IU/L. Symptoms most commonly include: anorexia, vague abdominal discomfort, nausea and vomiting.

### Laboratory criteria for diagnosis

One or more of the following three criteria:

- Hepatitis C Virus Recombinant Immunoblot Assay (HCV RIBA) positive
- OR
- Nucleic Acid Test (NAT) for HCV RNA Positive
- OR
- Antibodies to hepatitis C virus (anti-HCV) screening-test-positive with a signal to cut-off ratio predictive of a true positive as determined for the particular assay as defined by CDC. (URL for the signal to cut-off ratios: [http://www.cdc.gov/ncidod/diseases/hepatitis/c/sc\\_ratios.htm](http://www.cdc.gov/ncidod/diseases/hepatitis/c/sc_ratios.htm))

**AND, Meets the following two criteria:**

- IgM anti-HAV negative
- AND
- IgM anti-HBc negative (if done) or HBsAg negative

### Case classification

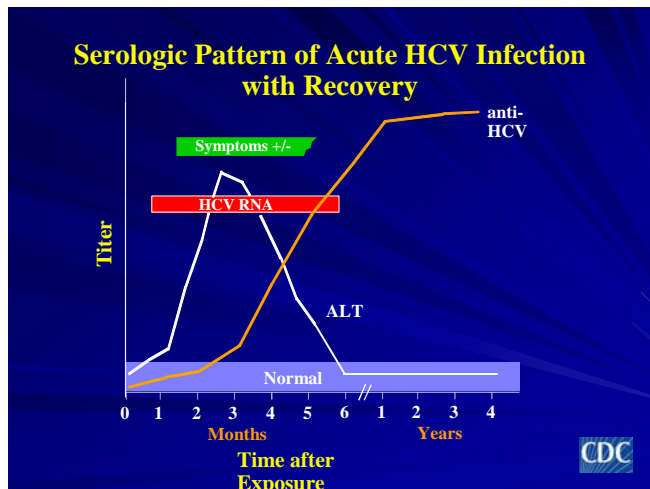
Confirmed: a case that meets the clinical case definition and is laboratory confirmed

Probable: a hepatitis C case with a clinically compatible illness and with positive anti-HCV laboratory results with a signal to cut-off ratio that does not meet the above criteria or is not reported.

### Comment

Up to 20% of acute hepatitis C cases will be anti-HCV negative when reported and will be classified as non-A, non-B hepatitis because some (5%–10%) have not yet seroconverted and others (5%–10%) remain negative even with prolonged follow-up. Available serologic tests for anti-HCV do not distinguish between acute and chronic or past infection. Thus, other causes of acute hepatitis should be excluded for anti-HCV positive patients who have an acute illness compatible with viral hepatitis.

**Report liver enzymes results for all cases where these are available.**



Note

See information below for additional information related to the serological course of disease.

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## Hepatitis C, (Past or Present Infection)

reporting code = 07054  
 case report form: (CDC 53.1, 8/01)  
[Viral Hepatitis Case Report](#)  
**MERLIN ELECTRONIC SUBMISSION**

### Clinical case definition

Persons with chronic hepatitis C may have no evidence of liver disease or may have a spectrum of disease ranging from chronic hepatitis to cirrhosis or liver cancer. Persons with chronic infection may be asymptomatic.

### Laboratory criteria for diagnosis

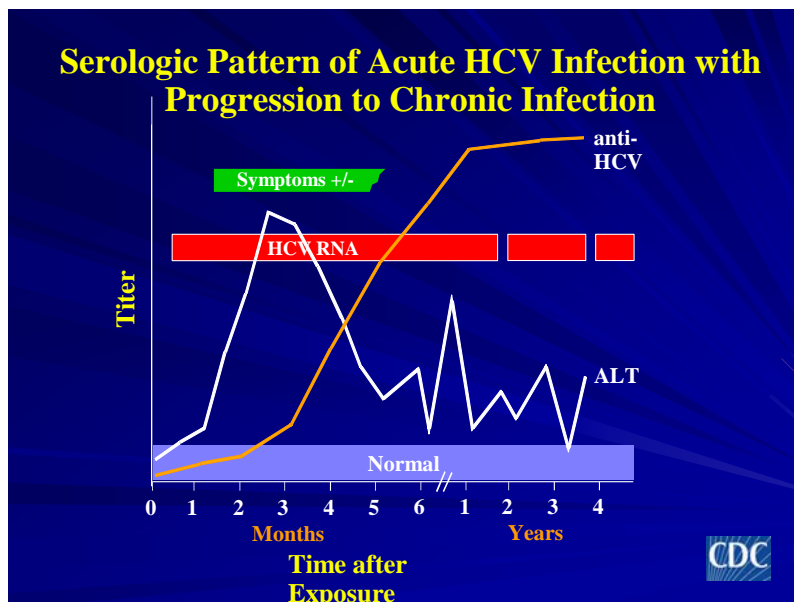
- Antibody to HCV (anti-HCV) positive (repeat reactive) by enzyme immunoassay (EIA), verified by an additional more specific assay (e.g., RIBA or PCR for HCV RNA)
- OR
- HCV RIBA positive
- OR
- Nucleic acid test for HCV RNA positive
- OR
- Report of HCV genotype
- OR
- Anti-HCV positive (repeat reactive) with a signal to cut-off ratio predictive of a true positive as determined for the particular assay as defined by CDC. (URL for the signal to cut-off ratios: [http://www.cdc.gov/ncidod/diseases/hepatitis/c/sc\\_ratios.htm](http://www.cdc.gov/ncidod/diseases/hepatitis/c/sc_ratios.htm))

### Case classification

**Confirmed:** A case that is laboratory confirmed AND that does not meet the case definition of acute hepatitis C.

**Probable:** A case that is anti-HCV positive (repeat reactive) by EIA and has alanine aminotransferase (ALT or SGPT) values above the upper limit of normal, but the anti-HCV EIA result has not been verified by an additional more specific assay and the signal to cut-off ratio that does not meet the above criteria or is not reported.

**Suspect:** A case that is Anti-HCV positive, but absent other diagnostic criteria and does not meet the clinical or laboratory criteria for hepatitis C, acute.



### Note

See information below for additional information related to the serological course of disease.

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## Hepatitis D

reporting code = 07052  
 case report form: (CDC 53.1, 8/01)  
[Viral Hepatitis Case Report](#)  
**MERLIN ELECTRONIC SUBMISSION**

### Clinical description

An acute viral illness with a ) discrete onset of symptoms **and** b) jaundice **or** elevated liver enzymes. Symptoms most commonly include: fatigue, abdominal pain, loss of appetite/anorexia, nausea, vomiting, or dark urine (tea colored).

### Laboratory criteria for diagnosis

Evidence of Hepatitis B infection:

- Positive IgM anti-HBc

OR

- HBsAg Positive

AND one of the following:

- IgM anti-HDV positive

OR

- Positive HDV RNA (PCR)

OR

- Positive total anti-HDV

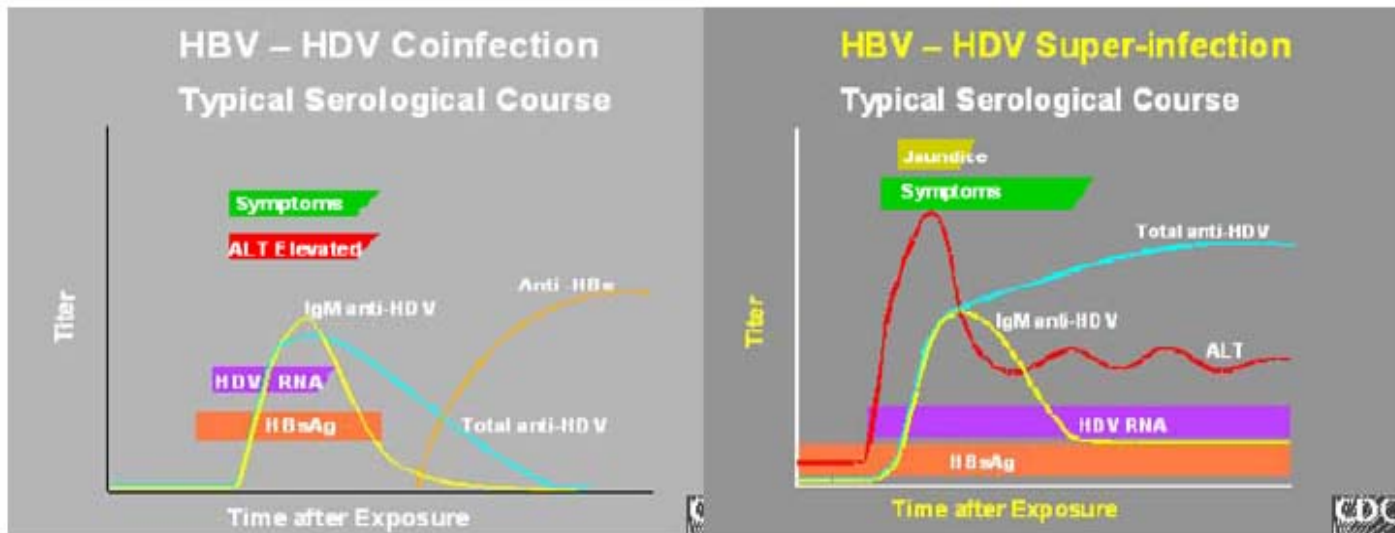
### Case classification

**Confirmed:** A case that meets the clinical case definition and is laboratory confirmed.

**Probable:** A case that has a discrete onset of symptoms, lacks jaundice or elevated liver enzymes, but is laboratory confirmed.

### Comment

See information below for additional information related to the serological course of disease.



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## Hepatitis E

reporting code = 07053  
 case report form: (CDC 53.1, 8/01)  
[Viral Hepatitis Case Report](#)  
 MERLIN ELECTRONIC SUBMISSION

### Clinical description

An acute viral illness with a ) discrete onset of symptoms **and** b) jaundice **or** elevated liver enzymes. Symptoms most commonly include: fatigue, abdominal pain, loss of appetite/anorexia, nausea, vomiting, or dark urine (tea colored).

### Laboratory criteria for diagnosis

- Positive IgM anti-HEV
- OR
- Positive HEV RNA (PCR)
- OR
- Positive total ANTI-HEV (both IgM and IgG)

One of the above, and meets the following criteria:

- IgM anti-HAV negative
- AND
- IgM anti-HBc negative (if done) or HBsAg negative
- AND
- Anti-HCV Negative (if done)

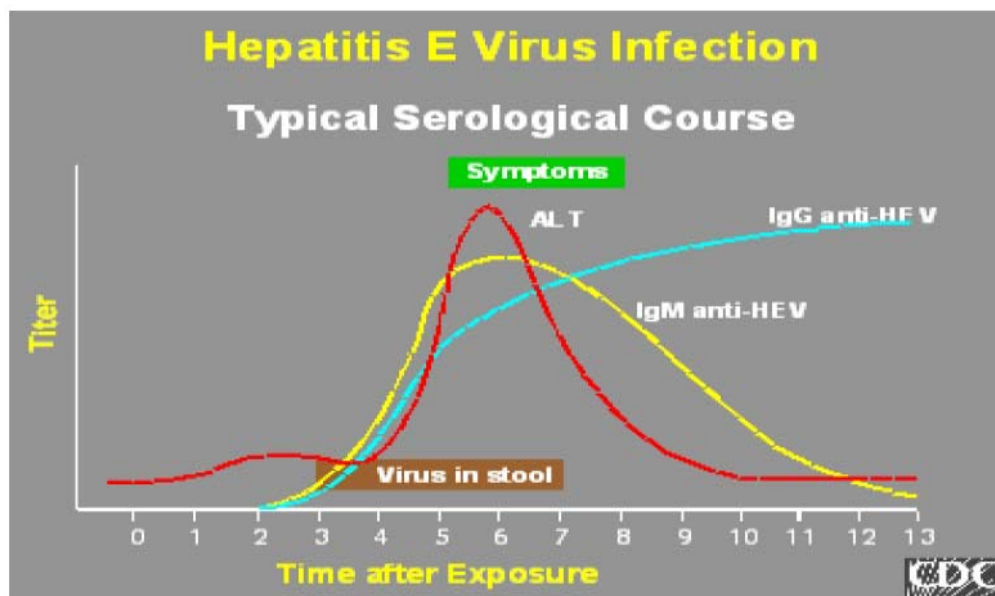
### Case classification

**Confirmed:** A case that meets the clinical case definition and is laboratory confirmed.

**Probable:** A case that has a discrete onset of symptoms, lacks jaundice or elevated liver enzymes, but is laboratory confirmed.

### Comment

See information below for additional information related to the serological course of disease.



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## Hepatitis G

reporting code = 07059  
case report form: (CDC 53.1, 8/01)  
[Viral Hepatitis Case Report](#)

### **Clinical description**

Persons with hepatitis G may or may not have evidence of liver disease.

### **Laboratory criteria for diagnosis**

Hepatitis G RNA positive

### **Case classification**

Confirmed: a case that meets the clinical case definition and is laboratory confirmed

### **Comment**

The pathogenic role of HGV remains under investigation. Hepatitis G is mainly transmitted via blood. Infection has been documented in individuals that have received multiple blood transfusions or are intravenous drug users. It is estimated that frequency of infection is around 1-2% in healthy populations in the United States. Epidemiologic research has shown that type 2 is prevalent in the United States. Co-infection with hepatitis C virus is common.

Report liver enzymes results for all cases where these are available.

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## Influenza A, Novel or Pandemic Strains

### Generic Case Definition

reporting code = 48790  
 case report form: (HSDE, 6/06)  
[Avian Influenza Data Collection Tool](#)

#### Clinical description

An illness compatible with influenza virus infection.

#### Laboratory criteria for diagnosis

A **human case** of infection with an influenza A virus subtype that is different from currently circulating human influenza H1 and H3 viruses. Novel subtypes include, but are not limited to, H2, H5, H7, and H9 subtypes. Influenza H1 and H3 subtypes originating from a non-human species or from genetic reassortment between animal and human viruses are also novel subtypes. Novel subtypes will be detected with methods available for detection of currently circulating human influenza viruses at state public health laboratories (e.g., real-time reverse transcriptase polymerase chain reaction [RT-PCR]). Non-human influenza viruses include avian subtypes (e.g., H5, H7, or H9 viruses), swine and other mammalian subtypes. Confirmation that an influenza A virus represents a novel virus will be performed by CDC's influenza laboratory.

Criteria for epidemiologic linkage: a) the patient has had contact with one or more persons who either have or had the disease and b) transmission of the agent by the usual modes of transmission is plausible. A case may be considered epidemiologically linked to a laboratory-confirmed case if at least one case in the chain of transmission is laboratory confirmed.

Criteria for epidemiologic linkage: a) the patient has had contact with one or more persons who either have or had the disease and b) transmission of the agent by the usual modes of transmission is plausible. A case may be considered epidemiologically linked to a laboratory confirmed case if at least one case in the chain of transmission is laboratory confirmed.

#### Case classification

**Confirmed:** A case of human infection with a novel influenza A virus confirmed by CDC's influenza laboratory.

**Probable:** A case meeting the clinical criteria and epidemiologically linked to a confirmed case, but for which no laboratory testing for influenza virus infection has been performed.

**Suspect:** A case meeting the clinical criteria, pending laboratory confirmation. Any case of human infection with an influenza A virus that is different from currently circulating human influenza H1 and H3 viruses is classified as a suspected case until the confirmation process is complete.


#### Comment

THIS IS A GENERIC CASE DEFINITION FOR NOVEL INFLUENZA INFECTION. During an outbreak or pandemic situation such as for 2009 Novel Influenza A H1N1 event specific outbreak case definitions and reporting criteria will be developed. Please contact the Bureau of Epidemiology for the latest case definition during an outbreak or pandemic event.

For additional information about influenza or influenza surveillance, refer to the Bureau of Epidemiology Influenza website [http://www.doh.state.fl.us/disease\\_ctrl/epi/htopics/flu/index.htm](http://www.doh.state.fl.us/disease_ctrl/epi/htopics/flu/index.htm) or the CDC Influenza web site: <http://www.cdc.gov/flu/>.

On December 13, 2006, the United States formally accepted the revision of the International Health Regulations, referred to as IHR (2005) (<http://www.hhs.gov/news/press/2006pres/20061213.html>). The IHR (2005) are an international legal instrument that governs the roles of the WHO and its member countries in identifying and responding to and sharing information about public health emergencies of international concern ([http://www.who.int/csr/ihr/IHRWHA58\\_3-en.pdf](http://www.who.int/csr/ihr/IHRWHA58_3-en.pdf)). The updated rules are designed to prevent and protect against the international spread of diseases, while minimizing interference with world travel and trade. The revised regulations add human infections with new influenza strains to the list of conditions that Member States must immediately report to WHO. An outbreak of infections with a new influenza A virus that demonstrates human-to-human transmission could signal the beginning of the next pandemic. Robust epidemiologic and laboratory surveillance systems are required for a coordinated public health response to infections with a novel influenza virus subtype. Early detection of an influenza virus with pandemic potential will permit identification of viral characteristics (e.g., genetic sequence, antiviral susceptibility, and virulence) that will affect clinical management and public health response measures. It should also facilitate development of a virus-specific vaccine and testing strategies.

All state public health laboratories have the capacity to test respiratory specimens for influenza viruses with sensitive and specific assays that can detect human and non-human influenza A viruses. They also have the capacity to subtype currently circulating human influenza A H1, H3, and avian H5 (Asian lineage) viruses. The detection or confirmation by a state public health laboratory of an influenza A virus that is unsubtypeable with standard methods (e.g., real-time RT-PCR assays for human influenza A(H3) or (H1) viruses), or a non-human influenza virus (e.g., H5) from a human specimen, could be the initial identification of a virus with pandemic potential. Prompt notification of CDC by a state epidemiologist in conjunction with the public health laboratory will permit rapid confirmation of results and reporting to WHO. In addition, it will aid prompt viral characterization, and the development of virus-specific diagnostic tests.

 **Specimens from all cases must be sent to the Bureau of Laboratories for confirmation. Approval to perform testing must be obtained through the Bureau of Epidemiology, available 24/7 via phone 850-245-4401.**

**A copy of laboratory test results must accompany the paper case report form.**

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## Influenza-Associated Pediatric Mortality

reporting code = 48700

case report form: (CDC)

[Influenza-Associated Pediatric Deaths Case Report Form](#)

### Clinical Description

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:

1. There is no laboratory confirmation of influenza virus infection.
2. The influenza illness is followed by full recovery to baseline health status prior to death.
3. The death occurs in a person 18 years or older.
4. After review and consultation there is an alternative agreed upon cause of death.

### Laboratory criteria for diagnosis

Laboratory testing for influenza virus infection may be done on pre- or post-mortem clinical specimens, and include identification of influenza A or B virus infections by a positive result by at least one of the following:

- Influenza virus isolation in cell culture from respiratory specimens;
- Reverse-transcriptase polymerase chain reaction (RT-PCR) testing of respiratory specimens;
- Immunofluorescent antibody staining (direct or indirect) of respiratory specimens;
- Rapid influenza diagnostic testing of respiratory specimens;
- Immunohistochemical (IHC) staining for influenza viral antigens in respiratory tract tissue from autopsy specimens;
- Fourfold rise in influenza hemagglutination inhibition (HI) antibody titer in paired acute and convalescent sera\*.

### Case classification

Confirmed: A death meeting the clinical case definition that is laboratory confirmed.

Laboratory or rapid diagnostic test confirmation is required as part of the case definition; therefore, all reported deaths will be classified as confirmed.

### Comment

\*Serologic testing for influenza is available in a limited number of laboratories, and should only be considered as evidence of recent infection if a fourfold rise in influenza (HI) antibody titer is demonstrated in paired sera. Single serum samples are not interpretable.



**Isolates from all cases must be sent to the Bureau of Laboratories for confirmation.**

**Please notify the Bureau of Epidemiology when investigating a case.**

**A copy of laboratory test results must accompany the paper case report form.**

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## Lead Poisoning

reporting code = 94890  
 case report form: N/A  
**MERLIN ELECTRONIC SUBMISSION**

### Clinical description

Often asymptomatic but may result in impaired neurobehavioral development, low IQ, slow nerve conduction, peripheral neuropathies, and encephalopathy.

### Laboratory criteria for diagnosis

Confirmed: Blood lead level  $\geq 10$  micrograms per deciliter of whole blood measured from a venous specimen

OR

Blood lead level  $\geq 10$  micrograms per deciliter measured from **TWO** capillary draws taken **within 12 weeks** of one another

Suspect: Blood lead level  $\geq 10$  micrograms per deciliter measured from a single capillary draw or, Blood lead level  $\geq 10$  micrograms per deciliter of blood with no test type indication.

### Case classification

No symptoms necessary; case classifications provided in the “laboratory criteria for diagnosis”

### Comment

1. Florida Department of Health (FDOH) considers all blood lead tests to be evidence of a suspicion of lead poisoning, thus they must be reported to the FDOH by laboratories, hospitals or physicians who conduct on-site blood lead analysis. Requiring these entities to report all blood lead results to FDOH enables program to assess disease prevalence rates and screening rates. This provides the necessary data to identify risk areas in Florida and design an effective prevention program. Although all blood lead test results must be reported by laboratories, hospitals or physicians who conduct on-site blood lead analysis, county health department disease investigators should only report suspect and confirmed cases in Merlin. In addition, lead poisoning disease investigations should performed for children 0 to 16 years old whose test results meet the strict definition of confirmed as described above in laboratory criteria.
2. The reportable level of lead poisoning in Florida is the same for children as for adults (see laboratory criteria above.)
3. Once a child or adult has had an initial confirmed elevated blood lead level test result of  $\geq 10$  micrograms per deciliter, if he or she has additional follow-up test results, regardless of the test type, these confirmed results are to be included with initial case information and not reported as a new case.
4. Capillary tests with an initial blood lead level of  $\geq 10$  micrograms per deciliter with a venous or capillary follow-up test result  $\geq 10$  micrograms per deciliter, taken **within 12 weeks** of one another should not be classified as a suspect case. If a case is initially reported as *suspect* (see case definition above) and then a confirmatory venous or capillary test result is received, the suspect case needs to be updated to the *confirmed* case status.
5. **The Childhood Lead Poisoning Screening and Case Management Guide** is a resource available for CHD disease investigators and health care providers. It contains additional information on disease investigation, lead poisoning testing, case management, and requirements for environmental investigations. This guide can be found at the following link:  
[http://www.doh.state.fl.us/environment/community/lead/pdfs/CM\\_Guide\\_Final\\_Version.pdf](http://www.doh.state.fl.us/environment/community/lead/pdfs/CM_Guide_Final_Version.pdf)



Questions regarding the follow-up of lead poisoning cases should be directed to the Department of Health, Childhood Lead Poisoning Prevention Program at (850) 245-4444 x2694 or (850) 245-4299.

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## Legionellosis

reporting code = 48280  
 case report form: (CDC 52.56, 2/03)  
[Legionellosis Case Report](#)  
 MERLIN ELECTRONIC SUBMISSION

### Clinical description

Legionellosis is associated with two clinically and epidemiologically distinct illnesses: Legionnaires disease, which is characterized by fever, myalgia, cough, and clinical or radiographic pneumonia, and Pontiac fever, a milder illness without pneumonia.

### Laboratory criteria for diagnosis

Confirmed:

- Isolation 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

- Fourfold or greater rise in specific serum antibody titer to *Legionella pneumophila* serogroup 1 using validated reagents

Suspect:

- Fourfold or greater rise in antibody titer to specific species or serogroups of *Legionella* other than *L. pneumophila* serogroup 1 (e.g., *L. micdadei*, *L. pneumophila* serogroup 6).

OR

- Fourfold or greater rise in antibody titer to multiple species of *Legionella* using pooled antigen and validated reagents.

OR

- Detection of specific *Legionella* antigen or staining of the organism in respiratory secretions, lung tissue, or pleural fluid by direct fluorescent antibody (DFA) staining, immunohistochemistry (IHC), or other similar method, using validated reagents.

OR

- Detection of *Legionella* species by a validated nucleic acid assay.

### Case classification

Confirmed: a clinically compatible case that meets at least one of the confirmatory laboratory criteria.

Suspect: a clinically compatible case that meets at least one of the presumptive (suspect) laboratory criteria.

### Comment

The previously used category of “probable case,” which was based on a single IFA titer, lacks specificity for surveillance and is no longer used.

Travel-associated: a case that has a history of spending at least one night away from home, either in the same country of residence or abroad, in the two weeks before onset of illness. **Indicate if the case is travel associated in the case notes.**

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## Leptospirosis

reporting code = 10090  
 case report form: (HSDE, 12/10)  
[Leptospirosis Case Report Form](#)

### Clinical description

An illness characterized by fever, AND headache, chills, myalgia, conjunctival suffusion, and cough, hemoptysis (bloody sputum) meningitis, rash, jaundice, or renal insufficiency. Symptoms may be biphasic. Clinical presentation may range from very mild to fatal illness and in early stages can be confused with influenza or other more common febrile illnesses.

### Laboratory criteria for diagnosis

#### Confirmed:

- Isolation of *Leptospira* from a clinical specimen
- OR
- Fourfold or greater increase in *Leptospira* microscopic agglutination test (MAT) titer between acute and convalescent phase serum specimens obtained  $\geq 2$  weeks apart and tested at the same laboratory
- OR
- Demonstration of *Leptospira* in a clinical specimen by immunofluorescence

#### Supportive:

- A single *Leptospira* MAT titer of  $\geq 200$  from one or more serum specimens
- OR
- A positive *Leptospira* enzyme-linked immunoassay (EIA) IgM result
- OR
- Detection of pathogenic *Leptospira* by nucleic acid test (NAT)

### Case classification

Confirmed: a clinically compatible illness that meets the confirmed laboratory criteria for diagnosis

Probable: a clinically compatible case with supportive serologic findings or epidemiologically linked to a confirmed or probable case

### Comment

Leptospirosis is shed in the urine of many wild and domestic animals including rodents, pigs, raccoons, deer and dogs. Animal reservoirs are often healthy appearing. The organism can survive for extended periods in moist conditions and water and is transmitted through ingestion or contact with cuts. Exposure risks include contact with contaminated water or infected animals (especially rodents) in the month prior to symptom onset. Laboratory testing should be routed through the Bureau of Laboratories after consultation with a central office environmental epidemiologist.

**Reporting:** next business day; reporting triggers include case with *Leptospira* clinically compatible illness and laboratory testing, healthcare report with *Leptospira* listed as a diagnosis, death certificate listing *Leptospira* as cause of death or significant cause, or autopsy findings of pulmonary hemorrhage and interstitial nephritis with no other known underlying cause.

**A copy of laboratory test results must accompany the paper case report form.**

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## Listeriosis

reporting code = 02700  
case report form: (CDC 52.15)

[Listeria Case Form](#)

**MERLIN ELECTRONIC SUBMISSION**

### **Clinical description**

In adults, invasive disease caused by *Listeria monocytogenes* manifests most commonly as meningitis or bacteremia; infection during pregnancy may result in fetal loss through miscarriage or stillbirth, or neonatal meningitis or bacteremia. Other manifestations can also be observed.

### **Laboratory criteria for diagnosis**

- Isolation of *L. monocytogenes* from a normally sterile site (e.g., blood or CSF or, less commonly, joint, pleural, or pericardial fluid)

OR

- In the setting of miscarriage or stillbirth, isolation of *L. monocytogenes* from placental or fetal tissue

### **Case classification**

Confirmed: a clinically compatible case that is laboratory confirmed

### **Comment**

The usefulness of other laboratory methods such as fluorescent antibody testing or PCR to diagnose invasive Listeriosis has not been established.

### **Note**

Meningitis due to *Listeria monocytogenes* should be reported as Listeriosis (02700) (and not under the disease code meningitis, bacterial, cryptococcal, mycotic) .

**Isolates from all cases should be sent to the Bureau of Laboratories.**

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## Lyme Disease

reporting code = 06959  
 case report form: (CDC 52.60, 2/06)  
[Lyme Disease Case Report](#)  
**MERLIN ELECTRONIC SUBMISSION**

### Clinical description

A systemic, tick-borne disease with protean manifestations, including dermatologic, rheumatologic, neurologic, and cardiac abnormalities. The best clinical marker for the disease is erythema migrans (EM), the initial skin lesion that occurs in 60%-80% of patients.

For purposes of surveillance, EM is defined as a skin lesion that typically begins as a red macule or papule and expands over a period of days to weeks to form a large round lesion, often with partial central clearing. A single primary lesion must reach greater than or equal to 5 cm in size across its largest diameter. Secondary lesions also may occur. Annular erythematous lesions occurring within several hours of a tick bite represent hypersensitivity reactions and do not qualify as EM. For most patients, the expanding EM lesion is accompanied by other acute symptoms, particularly fatigue, fever, headache, mildly stiff neck, arthralgia, or myalgia. These symptoms are typically intermittent. The diagnosis of EM must be made by a physician. Laboratory confirmation is recommended for persons with no known exposure.

For purposes of surveillance, late manifestations include any of the following when an alternate explanation is not found:

- *Musculoskeletal system.* Recurrent, brief attacks (weeks or months) of objective joint swelling in one or a few joints, sometimes followed by chronic arthritis in one or a few joints. Manifestations not considered as criteria for diagnosis include chronic progressive arthritis not preceded by brief attacks and chronic symmetrical polyarthritis. Additionally, arthralgia, myalgia, or fibromyalgia syndromes alone are not criteria for musculoskeletal involvement.
- *Nervous system.* Any of the following, alone or in combination: lymphocytic meningitis; cranial neuritis, particularly facial palsy (may be bilateral); radiculoneuropathy; or, rarely, encephalomyelitis. Encephalomyelitis must be confirmed by demonstration of antibody production against *Borrelia burgdorferi* in the cerebrospinal fluid (CSF), evidenced by a higher titer of antibody in CSF than in serum. Headache, fatigue, paresthesia, or mildly stiff neck alone, are not criteria for neurologic involvement.
- *Cardiovascular system.* Acute onset of high-grade (2nd-degree or 3rd-degree) atrioventricular conduction defects that resolve in days to weeks and are sometimes associated with myocarditis. Palpitations, bradycardia, bundle branch block, or myocarditis alone are not criteria for cardiovascular involvement.

### Laboratory criteria for diagnosis

- Demonstration of diagnostic IgM or IgG antibodies to *B. burgdorferi* in serum or cerebrospinal fluid (CSF) by EIA or IFA screen followed by demonstration of IgM or IgG antibodies by Western Blot (WB, same as immunoblot). When WB is used during the first 4 weeks of disease onset (early Lyme Disease), both IgM and IgG procedures should be performed. A positive IgM test result alone is not recommended for use in determining active disease in persons with illness greater than 1 month's duration because the likelihood of a false-positive test result for a current infection is high for these persons. If a patient with suspected early Lyme Disease has a negative serology, serologic evidence of infection is best obtained by

testing of paired acute- and convalescent-phase serum samples. Serum samples from persons with disseminated or late-stage Lyme Disease almost always have a strong IgG response to *Borrelia burgdorferi* antigens.<sup>1</sup> OR

- Isolation of *Borrelia burgdorferi* from a clinical specimen OR
- A single positive IgG immunoblot\*

For the purposes of surveillance, the definition of a qualified laboratory assay is

- A positive culture for *B. burgdorferi*, [1]  
OR
- A two-tier testing (EIA or IFA followed by WB) interpreted using established criteria\*,  
OR
- A single-tier IgG immunoblot seropositivity interpreted using established criteria\*. [3]  
OR
- CSF antibody positive for *B. burgdorferi* by Enzyme Immunoassay (EIA) or Immunofluorescence Assay (IFA), when the titer is higher than it was in serum

\***An IgM immunoblot** is considered positive if a band is present at two of the following three locations: 21-25 kDa (OspC)\*\*, 39 kDa (BmpA), and 41 kDa (Fla).

**An IgG immunoblot** is considered positive if a band is present at five of the following 10 locations: 18 kDa, 21-25 kDa (OspC)\*\*, 28 kDa, 30 kDa, 39 kDa (BmpA), 41 kDa (Fla), 45 kDa, 58 kDa (not GroEL), 66kDa, and 93 kDa.<sup>3</sup>

\*\*The apparent molecular mass of OspC is dependent on the strain of *B. burgdorferi* being tested. The weight of this particular protein can range from 21-25 kDa.

## Exposure

Exposure is defined as having been (less than or equal to 30 days before onset of EM) in wooded, brushy, or grassy areas (i.e., potential tick habitats) in a county in which Lyme disease is endemic. A history of tick bite is not required. For surveillance purposes, the state of Florida is considered Lyme endemic.

## Case classification

Confirmed: a) a case of EM with a known exposure (as defined above), or b) a case of EM with laboratory evidence of infection (as defined above) and without a known exposure or c) a case with at least one late manifestation that has laboratory evidence of infection.

Probable: any other case of physician-diagnosed Lyme disease that has laboratory evidence of infection (as defined above).

Suspect: a) a case of EM where there is no known exposure (as defined above) and no laboratory evidence of infection (as defined above), or b) a case with laboratory evidence of infection but no clinical information available (e.g., a laboratory report).

## Comment

**Lyme disease reports will not be considered cases if the medical provider specifically states this is not a case of Lyme disease, or the only symptom listed is "tick bite" or "insect bite."**

[1] Centers for Disease Control and Prevention. Recommendations for test performance and interpretation from the Second National Conference on Serologic Diagnosis of Lyme Disease. MMWR MMWR Morb Mortal Wkly Rep 1995; 44:590-1.

[2] Dressler F, Whalen JA, Reinhardt BN, Steere AC. Western blotting in the serodiagnosis of Lyme disease. *J Infect Dis* 1993; 167:392-00.

[3] Engstrom SM, Shoop E, Johnson RC. Immunoblot interpretation criteria for serodiagnosis of early Lyme disease. *J Clin Microbiol* 1995; 33:419-27.

[4] Centers for Disease Control and Prevention. Notice to readers: caution regarding testing for Lyme disease. *MMWR Morb Mortal Wkly Rep* 2005; 54:125-6.

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## Malaria

reporting code = 08460  
 case report form: (CDC 54.1, 1/02)  
[Malaria Case Surveillance Report](#)

### Clinical description

Signs and symptoms are variable; however, most patients experience fever. In addition to fever, common associated symptoms include headache, back pain, chills, sweats, myalgia, nausea, vomiting, diarrhea, and cough. Untreated *Plasmodium falciparum* infection can lead to coma, renal failure, pulmonary edema, and death. The diagnosis of malaria should be considered for any person who has these symptoms and who has traveled to an area in which malaria is endemic. Asymptomatic parasitemia can occur among persons who have been long-term residents of areas in which malaria is endemic.

### Laboratory criteria for diagnosis

- Detection of malaria parasites in thick or thin peripheral blood films
- OR
- Detection of species specific parasite DNA in a sample of peripheral blood using a polymerase chain reaction (PCR) test
- OR
- Detection of circulating malaria-specific antigens using rapid diagnostic test (RDT)


### Case classification

**Confirmed:** detection and specific identification of malaria parasite by microscopy on blood films in a laboratory with appropriate expertise OR detection of *Plasmodium* species by nucleic acid test 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 **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.

### Comment

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 United States may indicate a relapsing infection or treatment failure caused by drug resistance.

 **Permanent slides from all diagnosed and suspected cases must be sent to the Bureau of Laboratories.**

Cases also are classified according to the following World Health Organization categories:

- Autochthonous:
  - Indigenous: malaria acquired by mosquito transmission in an area where malaria is a regular occurrence
  - Introduced: malaria acquired by mosquito transmission from an imported case in an area where malaria is not a regular occurrence
- Imported: malaria acquired outside a specific area (e.g., the United States and its territories)



- Induced: malaria acquired through artificial means (e.g., blood transfusion, common syringes, or malariotherapy)
- Relapsing: renewed manifestation (i.e., of clinical symptoms and/or parasitemia) of malarial infection that is separated from previous manifestations of the same infection by an interval greater than any interval resulting from the normal periodicity of the paroxysms
- Cryptic: an isolated case of malaria that cannot be epidemiologically linked to additional cases

**A copy of laboratory test results must accompany the paper case report form.**

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## Measles (Rubeola)

reporting code = 05590  
 case report form: (CDC 975, 9/87)  
[Measles Surveillance Worksheet](#)  
**MERLIN ELECTRONIC SUBMISSION**

### Clinical case definition

An illness characterized by all the following:

- Generalized rash lasting  $\geq 3$  days
- Temperature  $\geq 101.0^{\circ}\text{F}$  ( $\geq 38.3^{\circ}\text{C}$ )
- Cough, coryza, or conjunctivitis

### Laboratory criteria for diagnosis

- Positive serologic test for measles immunoglobulin M (IgM) antibody  
OR
- Detection of measles-virus-specific nucleic acid by polymerase chain reaction  
OR
- Significant rise in serum measles immunoglobulin G antibody level between acute- and convalescent-phase specimens by any standard serologic assay  
OR
- Isolation of measles virus from a clinical specimen

### Case classification

**Confirmed:** a case that is laboratory confirmed or that meets the clinical case definition and is epidemiologically linked to a confirmed case. A laboratory confirmed case does not need to meet the clinical case definition.

**Probable:** a case that meets the clinical case definition, has noncontributory or no serologic or virologic testing, and is not epidemiologically linked to a confirmed case

**Suspect:** any febrile illness accompanied by a clinically compatible rash

### Comment

Epidemiologic Classification of Internationally-Imported and U.S.-Acquired:

**Internationally imported case:** An internationally imported case is defined as a case in which measles results from exposure to measles virus outside the United States as evidenced by at least some of the exposure period (7–21 days before rash onset) occurring outside the United States and rash onset occurring within 21 days of entering the United States and there is no known exposure to measles in the U.S. during that time. All other cases are considered U.S.-acquired.

**U.S.-acquired case:** An U.S.-acquired case is defined as a case in which the patient had not been outside the United States during the 21 days before rash onset or was known to have been exposed to measles within the United States.

U.S.-acquired cases are subclassified into four mutually exclusive groups:

- Import-linked case: Any case in a chain of transmission that is epidemiologically linked to an internationally imported case.
- Imported-virus case: a case for which an epidemiologic link to an internationally imported case was not identified, but for which viral genetic evidence indicates an imported measles genotype, i.e., a genotype that is not occurring within the United States in a pattern indicative of endemic transmission. An endemic genotype is the genotype of any measles virus that occurs in an endemic chain of transmission (i.e., lasting  $\geq 12$  months). Any genotype that is found repeatedly

in U.S.-acquired cases should be thoroughly investigated as a potential endemic genotype, especially if the cases are closely related in time or location.

- Endemic case: a case for which epidemiological or virological evidence indicates an endemic chain of transmission. Endemic transmission is defined as a chain of measles virus transmission that is continuous for  $\geq 12$  months within the United States.
- Unknown source case: a case for which an epidemiological or virological link to importation or to endemic transmission within the U.S. cannot be established after a thorough investigation. These cases must be carefully assessed epidemiologically to assure that they do not represent a sustained U.S.-acquired chain of transmission or an endemic chain of transmission within the U.S.

Note: Internationally imported, import-linked, and imported-virus cases are considered collectively to be import-associated cases.

 **Specimens from all cases must be sent to the Bureau of Laboratories for confirmation.**

*Questions regarding the follow-up of measles should be directed to the Department of Health, Bureau of Immunization program at (850) 245-4342 or s/c 277-2755.*

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## **Melioidosis (*Burkholderia pseudomallei*)**

reporting code = 02500  
case report form: N/A

### **Clinical description**

Illness from melioidosis can be categorized as acute or localized infection, acute pulmonary infection, acute bloodstream infection, and chronic suppurative infection. Inapparent infections are also possible. The incubation period is not clearly defined, but may range from 2 days to many years.

- *Acute, localized infection:* This form of infection is generally localized as a nodule and results from inoculation through a break in the skin. The acute form of melioidosis can produce fever and general muscle aches, and may progress rapidly to infect the bloodstream.
- *Pulmonary infection:* This form of the disease can produce a clinical picture of mild bronchitis to severe pneumonia. The onset of pulmonary melioidosis is typically accompanied by a high fever, headache, anorexia, and general muscle soreness. Chest pain is common, but a nonproductive or productive cough with normal sputum is the hallmark of this form of melioidosis.
- *Acute bloodstream infection:* This type of the disease usually results in septic shock and typically infects patients with underlying illness such as HIV, renal failure, and diabetes. The symptoms of the bloodstream infection vary depending on the site of original infection, but they generally include respiratory distress, severe headache, fever, diarrhea, development of pus-filled lesions on the skin, muscle tenderness, and disorientation. This is typically an infection of short duration, and abscesses will be found throughout the body.
- *Chronic suppurative infection:* Chronic melioidosis is an infection that involves the organs of the body. These typically include the joints, viscera, lymph nodes, skin, brain, liver, lung, bones, and spleen.


### **Laboratory criteria for diagnosis**

- Isolation of *Burkholderia pseudomallei* from blood, urine, sputum, or skin lesions.

### **Case classification**

Confirmed: a clinically compatible case that is laboratory confirmed

### **Comment**

 **Specimens from all cases must be sent to the Bureau of Laboratories. This condition has been identified as a potential bioterrorism agent by the CDC.**

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## Meningitis, Bacterial, Cryptococcal, Mycotic

reporting code = 32090  
case report form: (CDC 52.15A, 12/07)  
[Active Bacterial Core Surveillance Case Report](#)  
MERLIN ELECTRONIC SUBMISSION

### Clinical description

Meningitis manifests most commonly with fever, headache, and a stiff neck; the disease may progress rapidly to shock and death. However, other manifestations may be observed.

### Laboratory criteria for diagnosis

- Isolation of a bacterial, cryptococcal, or fungal species from the cerebrospinal fluid (CSF)
- OR
- Positive blood culture for a bacterial, cryptococcal, or fungal species

### Case classification

Confirmed: a clinically compatible case that is laboratory confirmed

### Comment

See the case definitions for *Haemophilus influenzae*, Invasive Disease (03841), Listeriosis caused by *Listeria monocytogenes* (02700), Meningococcal Disease caused by *Neisseria meningitidis* (03630), and *Streptococcus pneumoniae*, Invasive Disease (04823, and 04830) to report cases of meningitis caused by these species.

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## Meningococcal Disease

reporting code = 03630  
 case report form: (CDC 52.15A, 12/07)  
[Active Bacterial Core Surveillance Case Report](#)  
**MERLIN ELECTRONIC SUBMISSION**

### Clinical description

Meningococcal disease manifests most commonly as meningitis and/or meningococemia that may progress rapidly to purpura fulminans, shock, and death. Other manifestations might be observed.

### Laboratory criteria for diagnosis

- Isolation of *Neisseria meningitidis* from a normally sterile site (e.g., blood or cerebrospinal fluid [CSF] or, less commonly, joint, pleural, or pericardial fluid) or skin scrapings of purpuric lesions
- OR
- Evidence of *N. meningitidis* DNA using a validated polymerase chain reaction (PCR), obtained from a normally sterile site (e.g., blood or CSF)[1]
- OR
- Evidence of *N. meningitidis* antigen by IHC on formalin-fixed tissue or latex agglutination of CSF [2,3]
- OR
- Isolation of gram negative diplococci from a normally sterile site (e.g., blood or CSF)

### Case classification


**Confirmed:** a clinically compatible case with isolation of *N. meningitidis* from a normally sterile site or skin scrapings of purpuric lesions.

**Probable:** a clinically compatible case that has either a positive PCR test or a positive IHC test or latex agglutination of CSF.

**Suspect:** a) clinical purpura fulminans in the absence of a positive blood culture or b) a clinically compatible case and the isolation of gram negative diplococci from a normally sterile site.

### Comment

Positive antigen test results from urine or serum samples are unreliable for diagnosing meningococcal disease. Sputum cultures are not considered confirmatory as sputum is not obtained from a normally sterile site.

 **Isolates of *N. meningitidis* must be sent to the Bureau of Laboratories for determination of serogroup.**

<sup>1</sup> Mothershed EA, Sacchi CT, Whitney AM, Barnett GA, Ajello GW, Schmink S, Mayer LW, Phelan M, Taylor TH Jr, Bernhardt SA, Rosenstein NE, Popovic T. 2004. Use of real-time PCR to resolve slide agglutination discrepancies in serogroup identification of *Neisseria meningitidis*. *J Clin Microbiol* 42:320-328.

<sup>2</sup> Guarner J, Greer PW, Whitney A, Shieh WJ, Fischer M, White EH, Carlone GM, Stephens DS, Popovic T, Zaki SR. Pathogenesis and diagnosis of human meningococcal disease using immunohistochemical and PCR assays; *American Journal of Clinical Pathology*. 122(5):754-64, 2004 Nov.

<sup>3</sup> Positive antigen test results from urine or serum samples are unreliable for diagnosing meningococcal disease.

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# Mercury Poisoning

reporting code = 94899  
case report form: (9/08 v.1)  
[Mercury Poisoning Case Report](#)

## Clinical description

The clinical presentation of mercury poisoning varies depending upon the form of mercury (elemental, organic or inorganic) as well as the route of exposure and the dose if ingested. Any organ system may be affected.

The signs and symptoms of acute exposure to mercury may vary depending on the form of mercury (elemental or inorganic). For elemental mercury, acute toxicity might result in fever, fatigue, and clinical signs of pneumonitis. For inorganic mercury, symptoms might include profuse vomiting and diarrhea that is often bloody, followed by hypovolemic shock, oliguric (decreased urine production) renal failure, and possibly death. Delayed toxicity symptoms (> 1 month) are typical of organic mercury poisoning and usually involve the central nervous system. These symptoms might include paresthesias, headaches, ataxia, dysarthria (motor speech disorder), visual field constriction, blindness, and hearing impairment.

## Laboratory criteria for diagnosis

Elevated levels of mercury found in urine, whole blood or hair as determined by laboratory tests:

- $\geq 10$  micrograms per liter ( $\mu\text{g/L}$ ) of urine
- OR
- $\geq 10$  micrograms per liter ( $\mu\text{g/L}$ ) of whole blood
- OR
- $\geq 5$  micrograms per gram ( $\mu\text{g/g}$ ) of hair

No definitive correlation exists between either blood or urine mercury levels or mercury toxicity. Urine mercury levels are not useful in evaluating organic mercury poisonings.

## Case classification

Confirmed: a clinically compatible case that meets the laboratory criteria for diagnosis.

Probable: a clinically compatible case in which a high index of suspicion, (patient's exposure history regarding location and time) exist or an epidemiologic link exists between this case and a laboratory-confirmed case.

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# Mumps

reporting code = 07290  
 case report form:  
**MERLIN ELECTRONIC SUBMISSION**

## Clinical description

Clinical case definition:

An illness with acute onset of unilateral or bilateral tender, self-limited swelling of the parotid and/or other salivary gland(s), lasting at least 2 days, and without other apparent cause.

Clinically compatible illness:

Infection with mumps virus may present as aseptic meningitis, encephalitis, hearing loss, orchitis, oophoritis, parotitis or other salivary gland swelling, mastitis or pancreatitis.

## Laboratory criteria for diagnosis

- Isolation of mumps virus from clinical specimen,  
OR
- Detection of mumps nucleic acid (e.g., standard or real time RT-PCR assays),  
OR
- Detection of mumps IgM antibody,  
OR
- Demonstration of specific mumps antibody response in absence of recent vaccination, either a fourfold increase in IgG titer as measured by quantitative assays, or a seroconversion from negative to positive using a standard serologic assay of paired acute and convalescent serum specimens.

## Epidemiologic Linkage

A case can be epidemiologically linked to a clinically compatible case or to a laboratory confirmed case. To be considered a confirmed case based on epidemiologic linkage, there must be a laboratory confirmed case in the chain of transmission.

## Case classification

Confirmed: A case that: 1) meets the clinical case definition or has clinically compatible illness, and 2) is either laboratory confirmed or is epidemiologically linked to a confirmed case.

Probable: A case that meets the clinical case definition without laboratory confirmation and is epidemiologically linked to a clinically compatible case.

Suspect: A case with clinically compatible illness or that meets the clinical case definition without laboratory confirmation (this would include those not tested as well as those tested but with negative results), or a case with laboratory tests suggestive of mumps without clinical information.

## Comment

Case Classification for Import Status:

*Internationally imported case*: An internationally imported case is defined as a case in which mumps results from exposure to mumps virus outside the United States as evidenced by at least some of the exposure period (12–25 days before onset of parotitis or other mumps-associated complications) occurring outside the United States and the onset of parotitis or other mumps-associated complications within 25 days of entering the United States and no known exposure to mumps in the U.S. during that time. All other cases are considered U.S.-acquired cases.

*U.S.-acquired case*: A U.S.-acquired case is defined as a case in which the patient had not been outside the United States during the 25 days before onset of parotitis or other mumps-associated complications or was known to have been exposed to mumps within the United States.



U.S.-acquired cases are sub-classified into four mutually exclusive groups:

- Import-linked case: Any case in a chain of transmission that is epidemiologically linked to an internationally imported case.
- Imported-virus case: A case for which an epidemiologic link to an internationally imported case was not identified but for which viral genetic evidence indicates an imported mumps genotype, i.e., a genotype that is not occurring within the United States in a pattern indicative of endemic transmission. An endemic genotype is the genotype of any mumps virus that occurs in an endemic chain of transmission (i.e., lasting  $\geq 12$  months). Any genotype that is found repeatedly in U.S.-acquired cases should be thoroughly investigated as a potential endemic genotype, especially if the cases are closely related in time or location.
- Endemic case: A case for which epidemiological or virological evidence indicates an endemic chain of transmission. Endemic transmission is defined as a chain of mumps virus transmission continuous for  $\geq 12$  months within the United States.
- Unknown source case: A case for which an epidemiological or virological link to importation or to endemic transmission within the U.S. cannot be established after a thorough investigation. These cases must be carefully assessed epidemiologically to assure that they do not represent a sustained U.S.-acquired chain of transmission or an endemic chain of transmission within the U.S.

Note: Internationally imported, import-linked, and imported-virus cases are considered collectively to be import-associated cases.

With previous contact with mumps virus either through vaccination (particularly with 2 doses) or natural infection, serum mumps IgM test results may be negative; IgG test results may be positive at initial blood draw and viral detection in RT-PCR or culture may have low yield. Therefore, mumps cases should not be ruled out by negative laboratory results. Serologic tests should be interpreted with caution, as false positive and false negative results are possible with IgM tests.

Currently, there is insufficient information to determine whether any mumps strains are endemic to the United States or to distinguish endemic from non-endemic strains.

*Questions regarding the follow-up of mumps cases should be directed to the Department of Health, Bureau of Immunization program at (850) 245-4342 or s/c 277-2755.*

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## Neurotoxic Shellfish Poisoning

reporting code = 98800  
case report form: (CDC 52.13, 10/00)  
[Investigation of Foodborne Illness](#)

### **Clinical case definition**

Onset is within a few minutes to a few hours after consumption of epidemiologically implicated shellfish (typically clams, mussels oysters, whelks and certain gastropods). Symptoms include tingling and numbness of lips, mouth, fingers, and toes; muscular aches; ataxia, and dizziness and usually accompanied by diarrhea, vomiting and/or nausea. Symptoms sometimes include reversal of hot and cold sensations; pupil dilation; and respiratory distress. Illness is self-limited and generally milder than paralytic shellfish poisoning; some patients have required ICU support for respiratory distress. . Duration is from a few hours to a few days.

### **Laboratory criteria for diagnosis**

- Detection of toxin (brevetoxin) in epidemiologically implicated shellfish

### **Case classification**

Confirmed: Clinically compatible illness that is associated with consumption of shellfish with a positive laboratory finding (brevetoxin) or with consumption of shellfish from areas where other toxic shellfish have been found or where red tide is documented (DACS shellfish beds closed in region).

### **Comment**

Contact your regional environmental epidemiologist for information.

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## Pertussis

reporting code = 03390  
 case report form: (CDC 71.14A, 9/97)  
[Pertussis Surveillance Worksheet](#)  
**MERLIN ELECTRONIC SUBMISSION**

### Clinical case definition

A cough illness lasting  $\geq 2$  weeks with one of the following: paroxysms of coughing, inspiratory “whoop,” or posttussive vomiting, without other apparent cause (as reported by a health professional)

### Laboratory criteria for diagnosis

- Isolation of *Bordetella pertussis* from clinical specimen
- OR
- Positive polymerase chain reaction (PCR) for *B. pertussis*

### Case classification

Confirmed: a case that is culture positive and in which an acute cough illness of any duration is present; or a case that meets the clinical case definition and is confirmed by positive PCR; or a case that meets the clinical case definition and is epidemiologically linked directly to a case confirmed by either culture or PCR

Probable: a case that meets the clinical case definition but is not laboratory confirmed, and not epidemiologically linked to a laboratory confirmed case

### Comment

The clinical case definition above is appropriate for endemic or sporadic cases. In outbreak settings, a case may be defined as a cough illness lasting at least 2 weeks (as reported by a health professional). Because direct fluorescent antibody testing of nasopharyngeal secretions has been demonstrated in some studies to have low sensitivity and variable specificity (9,10), such testing should not be relied on as a criterion for laboratory confirmation. Serologic testing (IgM and IgG) for pertussis is available in some areas but is not standardized and, therefore, should not be relied on as a criterion for laboratory confirmation.

### References

9. Broome CV, Fraser DW, English WJ. Pertussis--diagnostic methods and surveillance. In: Manclark CR, Hill JC, eds. International Symposium on Pertussis. Bethesda, MD: US Department of Health, Education, and Welfare, Public Health Service, National Institutes of Health, 1979; DHEW publication no. (NIH)79-1830:19-22.
10. Halperin SA, Bortolussi R, Wort AJ. Evaluation of culture, immunofluorescence, and serology for the diagnosis of pertussis. J Clin Microbiol 1989;27:752-7.

*Questions about pertussis follow-up should be directed to the Department of Health,  
 Bureau of Immunization program at (850) 245-4342 or s/c 277-2755*

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## Pesticide-Related Illness and Injury

reporting code = 09894  
 case report form: (DACS 30320, 7/06)  
[Pesticide Incident Monitoring Reporting Form](#)

### Clinical case definition

Any acute adverse health effect resulting from exposure to a pesticide product (defined under the Federal Insecticide Fungicide and Rodenticide Act [FIFRA] with the exception that disinfectants are excluded\*) including health effects due to an unpleasant odor, injury from explosion of the product, and allergic reaction. Symptoms typically involve one or more of the following:

- Systemic signs or symptoms (including respiratory, gastrointestinal, allergic and neurological signs/symptoms)
- Dermatologic lesions
- Ocular lesions

### Laboratory criteria for diagnosis

Biological tests for the presence of, or toxic response to the pesticide and/or its metabolite (in blood, urine, etc.), which may include:

- Measurement of the pesticide and/or metabolite(s) in the biological specimen
- Measurement of a biochemical response to pesticide in a biological specimen (e.g., cholinesterase levels)
- Environmental tests for the pesticide (e.g., foliage residue, analysis of suspect liquid)
- Pesticide detection on clothing or equipment used by the case subject

### Case classification

Reports are scored according to the following three criteria (a) documentation of pesticide exposure, (b) documentation of adverse health effect, and (c) evidence supporting a causal relationship. Refer to the classification matrix which follows this criteria section – the matrix provides the case classification categories and the scores needed to place the case into a specific category.

#### A. Documentation of Pesticide Exposure:

1. Laboratory, clinical, or environmental evidence corroborate exposure
  - analytical results from foliage residue, clothing residue, air, soil, water, or biologic samples
  - observation of residue and/or contamination (including damage to plant material from herbicides) by a trained professional\*\*
  - biologic evidence of exposure (e.g., response to administration of an antidote such as 2-PAM, Vitamin K, or repeated doses of atropine)
  - documentation of a characteristic eye injury or dermatological effects at the site of direct exposure by a licensed health care provider
  - clinical description of two or more post-exposure health effects characteristic for the pesticide by a licensed health care provider
2. Evidence of exposure based solely upon written or verbal report
  - report by case
  - report by witness
  - written records of application
  - observation of residue and/or contamination (including damage to plant material from herbicides) by other than a trained professional
  - other evidence suggesting that exposure occurred

3. Strong evidence that no pesticide exposure occurred

4. Insufficient data

**B. Documentation of Adverse Health Effect**

1. Two or more new post-exposure abnormal signs and/or test/laboratory findings reported by a licensed health care provider

2. Two or more new post-exposure abnormal signs reported (when new post-exposure signs and test/laboratory findings are insufficient to satisfy a B1 score, they can be used in lieu of symptoms towards satisfying a B2 score)

3. One post-exposure abnormal sign or symptom or insufficient data

**C. Evidence Supporting a Causal Relationship Between Pesticide Exposure and Health Effects**

1. Where the signs and symptoms documented under the criteria B. Health Effects are:

- characteristic for the pesticide and the temporal relationship between exposure and health effects is plausible
- consistent with an exposure-health effect relationship based upon the known toxicology (i.e., exposure dose, symptoms, and temporal relationship) of the putative agent from commonly available toxicology texts, government publications, information supplied by the manufacturer, or two or more case series or positive epidemiologic studies published in the peer-review literature

2. Evidence of exposure–health effect relationship is not present because

- the exposure dose was insufficient to produce the observed health effects or
- a temporal relationship does not exist (i.e., health effects preceded the exposure or occurred too long after exposure) or
- the constellation of health effects are not consistent based upon the known toxicology of the putative agent from information in commonly toxicology texts, government publications, information supplied by the manufacturer, or the peer-reviewed literature

3. Definite evidence of non-pesticide causal agent

4. Insufficient toxicological information is available to determine causal relationship between exposure and health effects including

- circumstances where minimal human health effects data are available or
- where there are less than two published case series or positive epidemiologic studies linking health effects to exposure to the particular pesticide product/ingredient or class of pesticides

**CASE CLASSIFICATION MATRIX**

CLASSIFICATION CATEGORIES											
CLASSIFICATION CRITERIA	Confirmed Case	Probable Case		Possible Case	Suspicious Case	Unlikely Case	Insufficient Information		Not a Case		
		1	2				3	4	Asymptomatic	Unrelated	
A. Exposure	1	1	2	2	1 or 2	1 or 2	4	-	-	3	-
B. Health Effects	1	2	1	2	1 or 2	1 or 2	-	4	3	-	-
C. Causal Relationship	1	1	1	1	4	2		-	-	-	3

**Comment**

The Florida Poison Control Network (800-222-1222) can provide emergency information to physicians and the public. For information regarding Florida pesticide laws and regulations, contact the Florida

Department of Agriculture and Consumer Services, Bureau of Compliance Monitoring at 850-488-3314. For information regarding this case definition, contact the Florida Department of Health, Bureau of Environmental Epidemiology, Pesticide Poisoning Surveillance Program at (850) 245-4117.

\* PESTICIDES: are defined under FIFRA as any substance or mixture of substances intended to prevent, destroy, repel or mitigate insects, rodents, nematodes, fungi, weeds, microorganisms, or any other form of life declared to be a pest by the Administrator of the USEPA and any substance or mixture of substance intended for use as a plant regulator, defoliant, or desiccant. Pesticides include herbicides, insecticides, rodenticides, fungicides, disinfectants, wood treatment products, growth regulators, insect repellents, etc.

\*\* TRAINED PROFESSIONAL: may be a plant pathologist, agricultural inspector, agricultural extension agent, industrial hygienist or any other licensed or academically trained specialist with expertise in plant pathology and/or environmental effects of pesticides. A licensed pesticide applicator may also be considered a trained professional.

For information concerning regulation and use of pesticides, contact the US EPA's Office of Pesticide Programs, at 703-305-5336. For information concerning Florida pesticide laws and regulations, contact the Florida Department of Agriculture and Consumer Services, Office of Pesticides at 850-487-0532.

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## Plague

reporting code = 02000 Bubonic  
 = 02050 Pneumonic  
 case report form: (CDC 56.37, 2/06)  
[Plague Case Investigation Report](#)

### Clinical description

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)
- Septicemia without an evident bubo (septicemic plague)
- Plague pneumonia, resulting from hematogenous spread in bubonic or septicemic cases (secondary pneumonic plague) or inhalation of infectious droplets (primary pneumonic plague)
- Pharyngitis and cervical lymphadenitis resulting from exposure to larger infectious droplets or ingestion of infected tissues (pharyngeal plague)

### Laboratory criteria for diagnosis

Presumptive:

- Elevated serum antibody titer(s) to *Yersinia pestis* fraction 1 (F1) antigen (without documented fourfold or greater change) in a patient with no history of plague vaccination
- OR
- Detection of F1 antigen in a clinical specimen by fluorescent assay

Confirmatory:

- Isolation of *Y. pestis* from a clinical specimen
- OR
- Fourfold or greater change in serum antibody titer to *Y. pestis* F1 antigen

### Case classification

Confirmed: a clinically compatible case with confirmatory laboratory results

Probable: a clinically compatible case with presumptive laboratory results

Suspect: a clinically compatible case without presumptive or confirmatory laboratory results

### Comment

 **Specimens from any case or suspect case must be sent to the Bureau of Laboratories for confirmation. This condition has been identified as a potential bioterrorism agent by the CDC.**

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## Poliomyelitis, Paralytic

reporting code = 04590  
case report form: N/A

### Clinical description

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

### Case classification

Confirmed: a case that meets the clinical case definition and in which the patient has a neurologic 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

### Comment

 **Specimens from all cases must be sent to the Bureau of Laboratories for confirmation.**

*Questions about polio case definitions or follow-up, please contact the Department of Health, Bureau of Immunization program at (850) 245-4342 s/c 277-2755*

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## Poliomyelitis, Nonparalytic

reporting code = 04520  
case report form: N/A

### Clinical description

Most poliovirus infections are asymptomatic or cause mild febrile disease. Poliovirus infections occasionally cause aseptic meningitis and one out of 200 infections from poliovirus type 1 results in paralytic poliomyelitis, characterized by acute onset of flaccid paralysis that is typically asymmetric and associated with a prodromal fever. Poliovirus is spread through fecal material, oral secretions, some aerosols and fomites.

### Case classification

Confirmed: Poliovirus isolate identified in an appropriate clinical specimen (e.g., stool, cerebrospinal fluid, oropharyngeal secretions), with confirmatory typing and sequencing performed by the CDC Poliovirus Laboratory, as needed.

### Comment

Note: This case definition applies only to poliovirus infections found in asymptomatic persons or those with mild, nonparalytic disease (e.g., those with a nonspecific febrile illness, diarrhea, or aseptic meningitis). Isolation of *polioviruses* from persons with acute paralytic poliomyelitis should continue to be reported as “paralytic poliomyelitis 04590”.



In 2005, a vaccine-derived poliovirus (VDPV) type 1 was identified in a stool specimen obtained from an immunodeficient Amish infant and, subsequently, from 4 other children in 2 other families in the infant's central Minnesota community<sup>1</sup>. Epidemiological and laboratory investigations determined that the VDPV had been introduced into the community about 3 months before the infant was identified and that there had been virus circulation in the community. Investigations in other communities in Minnesota and nearby states and Canada did not identify any additional infections or any cases of paralytic poliomyelitis.

Although oral poliovirus vaccine (OPV) is still widely used in most countries, inactivated poliovirus vaccine (IPV) replaced OPV in the United States in 2002. Therefore, the Minnesota poliovirus infections were the result of importation of a vaccine-derived poliovirus into the United States and the first time a VDPV has been shown to circulate in a community in a developed country. Circulating VDPVs commonly revert to a wild poliovirus phenotype and have increased transmissibility & high risk for paralytic disease; they have recently caused polio infections and outbreaks of paralytic poliomyelitis in several countries<sup>3</sup>. Contacts between persons in communities with low polio vaccination coverage pose the potential for transmission of polioviruses and outbreaks of paralytic poliomyelitis.

Because of the success of the routine childhood immunization program in the U.S. and the Global Polio Eradication Initiative, polio has been eliminated in the Americas since 1991. Because the U.S. has used IPV exclusively since 2000, the occurrence of any poliovirus infections in the U.S. is a cause for concern. Reflecting the global concern for poliovirus importations into previously polio-free countries, the World Health Assembly, W.H.O., has added circulating poliovirus to the notifiable events in the International Health Regulations (IHR)<sup>4</sup>.

#### References

1 CDC. Poliovirus infections in four unvaccinated children – Minnesota, August-October 2005. MMWR; 54(41); 1053–1055.

2 CDC. Poliomyelitis prevention in the United States. Updated recommendations from the Advisory Committee on Immunization Practices (ACIP). MMWR 2000;49(No. RR-5).

3 Kew OM, Sutter RW, de Gourville EM, Dowdle WR, Pallansch MA. Vaccine-derived polioviruses and the endgame strategy for global polio eradication. Ann Rev Microbiol 2005;59:587-635.

4 CDC. Brief report. Conclusions and recommendations of the Advisory Committee on Poliomyelitis Eradication — Geneva, Switzerland, October 2005. MMWR 2005;54;1186-8.



**Specimens from all cases must be sent to the Bureau of Laboratories for confirmation.**

*Questions about polio case definitions or follow-up, please contact the Department of Health, Bureau of Immunization program at (850) 245-4342 s/c 277-2755*

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## Psittacosis

reporting code = 07390  
 case report form: (NASPHV, 2/08)  
[Psittacosis Human Case Surveillance Report](#)

### Clinical description

An illness characterized by fever, chills, headache, photophobia, cough, and myalgia

### Laboratory criteria for diagnosis

Confirmatory laboratory evidence:

- Isolation of *Chlamydia psittaci* from respiratory secretions
- OR
- Fourfold or greater increase in antibody against *C. psittaci* by complement fixation (CF) or microimmunofluorescence (MIF) to a reciprocal titer of  $\geq 32$  between paired acute and convalescent phase serum specimens obtained at least 2-4 weeks apart

OR

Supportive laboratory evidence:

- Presence of IgM antibody against *C. psittaci* by MIF greater or equal 1:32 in at least one serum specimen obtained after onset of symptoms
- Detection of *C. psittaci* DNA in a respiratory specimen (e.g. sputum, pleural fluid or tissue) via amplification of a specific target by PCR assay

### Case classification

Confirmed: a clinically compatible case that is laboratory confirmed

Probable: a clinically compatible case that is epidemiologically linked to a confirmed case OR a clinically compatible illness that has supportive laboratory evidence.


Suspect: clinically compatible human illness with history of close contact with a *C. psittaci* positive bird or its feces or secretions within 2 weeks of symptom onset and no alternative agreed upon diagnosis.

### Exposure

Epidemiologic risk factors include exposure to a *C. psittaci* confirmed infected bird's feces or secretions, exposure to same dried bird feces or secretions as a confirmed case, and bird owners, pet shop employees, veterinarians, poultry plant workers and others exposed to birds and their secretions. Cultures of *C. psittaci* pose an aerosol exposure risk to laboratory workers. Follow up should be conducted with the laboratory to identify any potential lab exposures.

### Comment

The serologic findings by CF also may occur as a result of infection with *Chlamydia pneumoniae* or *Chlamydia trachomatis*. Results from MIF and CF should be interpreted with caution due to cross possible cross reactivity with *C. pneumoniae* and *C. trachomatis*. To increase the reliability of test results, acute- and convalescent-phase serum specimens should be analyzed at the same time in the same laboratory. A realtime polymerase chain reaction (rtPCR) has been developed and validated in avian specimens but has not yet been validated for use in humans (Mitchell SL, BJ Wolff, WL Thacker, PG Ciembor, CR Gregory, KDE Everett, BW Ritchie, JM Winchell 2008 Genotyping of *Chlamydophila psittaci* by real-time PCR and high resolution melt analysis. J. Clin. Microbiol. 47:175-181)

 **Specimens from all cases must be sent to the Bureau of Laboratories for confirmation. Specimens will be forwarded on to CDC for testing in outbreak settings. This condition has been identified as a potential bioterrorism agent by the CDC.**

**Reporting:** Next business day; reporting triggers include clinically compatible case with appropriate laboratory results (confirmatory or supportative), diagnosis of psittacosis (*C. psittaci*) in medical record, death certificate listing psittacosis as cause of death or significant condition.

**A copy of laboratory test results should accompany the case report form.**

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## Q Fever, Acute (*Coxiella burnetii*)

reporting code = 08301  
 case report form: (CDC 55.1, 2/08)  
[Q Fever Case Report](#)

### Clinical description

Acute fever usually accompanied by rigors, myalgia, malaise, and a severe retrobulbar headache. Fatigue, night-sweats, dyspnea, confusion, nausea, diarrhea, abdominal pain, vomiting, non-productive cough, and chest pain have also been reported. Severe disease can include acute hepatitis, atypical pneumonia with abnormal radiograph, and meningoencephalitis. Pregnant women are at risk for fetal death and abortion. Clinical laboratory findings may include elevated liver enzyme levels, leukocytosis, and thrombocytopenia. Asymptomatic infections may also occur.

### Clinical evidence:

Acute fever **and** one or more of the following: rigors, severe retrobulbar headache, acute hepatitis, pneumonia, or elevated liver enzyme levels.

### Laboratory criteria for diagnosis

Laboratory confirmed:

- Serological evidence of a fourfold change in immunoglobulin G (IgG)-specific antibody titer to *Coxiella burnetii* phase II antigen by indirect immunofluorescence assay (IFA) between paired serum samples, (CDC suggests one taken during the first week of illness and a second 3-6 weeks later, antibody titers to phase I antigen may be elevated or rise as well), OR
- Detection of *C. burnetii* DNA in a clinical specimen via amplification of a specific target by polymerase chain reaction (PCR) assay, OR
- Demonstration of *C. burnetii* in a clinical specimen by immunohistochemical methods (IHC), OR
- Isolation of *C. burnetii* from a clinical specimen by culture.

Laboratory supportive:

- Has a single supportive IFA IgG titer of  $\geq 1:128$  to phase II antigen (phase I titers may be elevated as well).
- Has serologic evidence of elevated phase II IgG or IgM antibody reactive with *C. burnetii* antigen by enzyme-linked immunosorbent assay (ELISA), dot-ELISA, or latex agglutination.

Note: For acute testing, CDC uses in-house IFA IgG testing (cutoff of  $\geq 1:128$ ), preferring simultaneous testing of paired specimens, and does not use IgM results for routine diagnostic testing.

## Case classification


**Confirmed:** A laboratory confirmed case that either meets clinical case criteria or is epidemiologically linked to a lab confirmed case.

**Probable:** A clinically compatible case of acute illness (meets clinical evidence criteria for acute Q fever illness) that has laboratory supportive results for past or present acute disease (antibody to Phase II antigen) but is not laboratory confirmed.

## Comment

Serologic profiles of pregnant women infected with acute Q fever during gestation may progress frequently and rapidly to those characteristic of chronic infection.

Exposure is usually via aerosol, is broadly interpreted, and may be unknown, but often includes the presence of goats, sheep, or other livestock, especially during periods of parturition. Direct contact with animals is not required, and variable incubation periods may be dose dependent.

 **Acute and convalescent sera from reported and suspect cases must be sent to the Bureau of Laboratories. This condition has been identified as a potential bioterrorism agent by the CDC.**

**A copy of laboratory test results should accompany the case report form.**

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## Q Fever, Chronic (*Coxiella burnetii*)

reporting code = 08302  
case report form: (CDC 55.1, 2/08)  
[Q Fever Case Report](#)

### Clinical description

Infection that persists for more than 6 months. Potentially fatal endocarditis may evolve months to years after acute infection, particularly in persons with underlying valvular disease. Infections of aneurysms and vascular prostheses have been reported. Immunocompromised individuals are particularly susceptible. Rare cases of chronic hepatitis without endocarditis, osteomyelitis, osteoarthritis, and pneumonitis have been described.

### Clinical evidence:

Newly recognized, culture-negative endocarditis, particularly in a patient with previous valvulopathy or compromised immune system, suspected infection of a vascular aneurysm or vascular prosthesis, or chronic hepatitis, osteomyelitis, osteoarthritis, or pneumonitis in the absence of other known etiology.

### Laboratory criteria for diagnosis

Laboratory confirmed:

- Serological evidence of IgG antibody to *Coxiella burnetii* phase I antigen  $\geq 1:800$  by IFA (while phase II IgG titer will be elevated as well; phase I titer is higher than the phase II titer),
- OR
- Detection of *C. burnetii* DNA in a clinical specimen via amplification of a specific target by PCR assay,
- OR
- Demonstration of *C. burnetii* antigen in a clinical specimen by IHC,

OR

- Isolation of *C. burnetii* from a clinical specimen by culture.

Laboratory supportive:

- Has an antibody titer to *C. burnetii* phase I IgG antigen  $\geq 1:128$  and  $< 1:800$  by IFA.

### Case classification

**Confirmed:** A clinically compatible case of chronic illness (meets clinical evidence criteria for chronic Q fever) that is laboratory confirmed for chronic infection.

**Probable:** A clinically compatible case of chronic illness (meets clinical evidence criteria for chronic Q fever) that has laboratory supportive results for past or present chronic infection (antibody to Phase I antigen).


### Comment

Samples from suspected chronic patients should be evaluated for IgG titers to both phase I and phase II antigens. Current commercially available ELISA tests (which test only for phase 2) are not quantitative, cannot be used to evaluate changes in antibody titer, and hence are not useful for serological confirmation. IgM tests are not strongly supported for use in serodiagnosis of acute disease, as the response may not be specific for the agent (resulting in false positives) and the IgM response may be persistent. Complement fixation (CF) tests and other older test methods are neither readily available nor commonly used.

Serologic test results must be interpreted with caution, because baseline antibodies acquired as a result of historical exposure to Q fever may exist, especially in rural and farming areas.

### Exposure

Exposure is usually via aerosol, is broadly interpreted, and may be unknown (especially for chronic infection), but often includes the presence of goats, sheep, or other livestock, especially during periods of parturition. Direct contact with animals is not required, and variable incubation periods may be dose dependent.

 **Acute and convalescent sera from reported and suspect cases must be acquired and sent to the Bureau of Laboratories. This condition has been identified as a potential bioterrorism agent by the CDC.**

**A copy of laboratory test results should accompany the case report form.**

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## Rabies, Animal

reporting code = 07102  
 case report form: *copy of state laboratory positive result*  
**MERLIN ELECTRONIC SUBMISSION**

### Laboratory criteria for diagnosis

- A positive direct fluorescent antibody test (preferably performed on central nervous system tissue)  
OR
- Isolation of rabies virus (in cell culture or in a laboratory animal)

### Case classification

Confirmed: a case that is laboratory confirmed in an animal

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## Rabies, Human

reporting code = 07100  
 case report form: N/A

### Clinical description

Rabies is an acute encephalomyelitis that almost always progresses to coma or death within 10 days after the first symptom.

### Laboratory criteria for diagnosis

- Detection by direct fluorescent antibody of viral antigens in a clinical specimen (preferably the brain or the nerves surrounding hair follicles in the nape of the neck)  
OR
- Isolation (in cell culture or in a laboratory animal) of rabies virus from saliva, cerebrospinal fluid (CSF), or central nervous system tissue  
OR
- Identification of a rabies-neutralizing antibody titer  $\geq 5$  (complete neutralization) in the serum or CSF
- Identification of a rabies-neutralizing antibody titer  $\geq 5$  (complete neutralization) in the serum or CSF of an unvaccinated person

### Case classification

Confirmed: a clinically compatible case that is laboratory confirmed

### Comment

Laboratory confirmation by all of the above methods is strongly recommended. CDC requests the following specimens: CSF, serum, or saliva (not sputum), biopsy of skin from the back of the neck just above hairline. Neck biopsy and saliva specimens should be sent packed in dry ice.

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## Rabies, Possible Exposure

(Includes a bite or other significant exposure\* to a human by an animal that is either infected with or suspected of being infected with rabies or capable of transmitting herpes B viruses, including exposures from non-human primates.)

reporting code = 07101 Animal Bite  
= 07103 Monkey Bite

case report form: (DOH 3180, 11/00)

[Confidential Rabies Post Exposure Prophylaxis Report Form](#)

### Clinical description

Any bite or other significant exposure

### Laboratory criteria for diagnosis

N/A

### Case classification

Confirmed: bite or other significant exposure of a human by a confirmed or suspected rabid animal or any animal capable of transmitting herpes B viruses, including non-human primates.

### Comment

The following is requested by HSDE: 1) patient information – age, sex, race, occupation, location of wound or exposure on body site, and whether rabies PEP given (indicate if the patient refuses treatment); 2) animal information – species, vaccinated/non-vaccinated, ownership (stray, wild, owned), and lab rabies results. An animal bite that is 'outbreak associated' is defined as two or more exposures from the same animal.

Only bites or other exposures\* where rabies PEP is recommended should be reported under the 07101 Animal Bite code. Do not report animal bites where PEP is not recommended. However, please report the following exceptions: if PEP is not recommended but the patient still requests to receive PEP, and if you are unable to determine whether PEP was recommended for a particular case. For these exceptions, please use the Case Notes in Merlin to explain the particular situation.

All *monkey* bites including those where PEP is not recommended should be reported under the 07103 Monkey Bite code.

### Note

The Rabies Prevention and Control in Florida Guidebook is updated annually and should be considered the most up-to-date resource for rabies related questions. To locate the 2009 or 2010 guidebooks please visit the following website:  
<http://www.doh.state.fl.us/environment/medicine/rabies/InformationforCHDs.html>.

\* Pages 3-2 and 4-2 includes the definition and interpretation of what constitutes a rabies exposure “A rabies exposure is considered any bite, scratch, or other contact in which saliva or nervous tissue of a suspect or known rabid animal enters an open or fresh wound, or comes in contact with mucous membranes by entering the eye, mouth, or nose of another animal or person.”

Pages 4-3 through 4-5 includes information regarding risk assessment of potential exposures. Pages 4-15 and 4-16 provide a patient management chart with a bulleted summary.

Rabies PEP Report forms and Animal Bite Report forms are available on the Bureau of Epidemiology website at: [http://www.doh.state.fl.us/disease\\_ctrl/epi/topics/crforms.htm](http://www.doh.state.fl.us/disease_ctrl/epi/topics/crforms.htm). The Animal Bite Report form is not required to be submitted to the Bureau of Epidemiology or the Division of Environmental Health. Additional information can be found on the Bureau of Community Environmental Health website <http://www.doh.state.fl.us/environment/community/rabies/rabies-index.html>

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## Ricin Toxicity

reporting code = 98830  
case report form: N/A

### Clinical description

- Inhalation: Within a few hours of inhaling significant amounts of ricin, the likely symptoms would be coughing, tightness in the chest, difficulty breathing, nausea, and aching muscles. Within the next few hours, the body's airways (such as lungs) would become severely inflamed (swollen and hot), excess fluid would build up in the lungs, breathing would become even more difficult, and the skin might turn blue. Excess fluid in the lungs would be diagnosed by x-ray or by listening to the chest with a stethoscope.
- Ingestion: If someone swallows a significant amount of ricin, he or she would have internal bleeding of the stomach and intestines that would lead to vomiting and bloody diarrhea. Eventually, the person's liver, spleen, and kidneys might stop working, and the person could die.
- Injection: Injection of a lethal amount of ricin at first would cause the muscles and lymph nodes near the injection site to die. Eventually, the liver, kidneys, and spleen would stop working, and the person would have massive bleeding from the stomach and intestines. The person would die from multiple organ failure.
- Death from ricin poisoning could take place within 36 to 48 hours of exposure, whether by injection, ingestion, or inhalation. If the person lives longer than 5 days without complications, he or she will probably not die.

Showing these signs and symptoms does not necessarily mean that a person has been exposed to ricin.

### Laboratory criteria for diagnosis

- N/A

### Case classification

**Suspect:** a clinically compatible case that is suspected of inhaling ricin. A possible clue would be that a large number of people who had been close to each other suddenly developed fever, cough, and excess fluid in their lungs. These symptoms could be followed by severe breathing problems and possibly death.

### Comment

 **Specimens from all cases must be submitted to the Bureau of Laboratories for confirmation. This condition has been identified as a potential bioterrorism agent by the CDC.**

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# Rocky Mountain Spotted Fever

reporting code = 08200  
 case report form: (CDC 55.1, 1/08)  
[Tick-Borne Rickettsial Disease Case Report](#)

## Clinical description

Rocky Mountain spotted fever (RMSF) is an illness caused by *Rickettsia rickettsii*, a bacterial pathogen transmitted to humans through contact with ticks. *Dermacentor* species of ticks are most commonly associated with infection, including *Dermacentor variabilis* (the American dog tick), *Dermacentor andersoni* (the Rocky Mountain wood tick), and more recently *Rhiphicephalus sanguineus* (the brown dog tick). Disease onset averages one week following a tick bite. Age-specific illness is highest for children and older adults. Illness is characterized by acute onset of fever, and may be accompanied by headache, malaise, myalgia, nausea/vomiting, or neurologic signs; a macular or maculopapular rash appears 4-7 days following onset in many (~80%) patients, often present on the palms and soles. RMSF may be fatal in as many as 20% of untreated cases, and severe, fulminant disease can occur. Serologic tests for RMSF can cross-react with spotted fever group *Rickettsia* species, including infection with *Rickettsia parkeri* (associated with *Amblyomma maculatum* ticks) and *Rickettsia amblyommi*, has also been reported. The clinical presentation of *R. parkeri* patients appears similar to, but may be milder than RMSF; the presence of an eschar at the site of tick attachment is useful for differentiating between *R. parkeri* from RMSF and has been reported for some other spotted fever rickettsioses.

## Clinical evidence

Any reported fever **and** one or more of the following: rash, headache, myalgia, anemia, thrombocytopenia, or any hepatic transaminase elevation.

## Laboratory evidence

For the purposes of surveillance,  
 Laboratory confirmed:

- Serological evidence of a fourfold change in immunoglobulin G (IgG)-specific antibody titer reactive with *Rickettsia rickettsii* antigen by indirect immunofluorescence assay (IFA) between paired serum specimens (one taken in the first week of illness and a second 2-4 weeks later), OR
- Detection of *R. rickettsii* DNA in a clinical specimen via amplification of a specific target by PCR assay, OR
- Demonstration of spotted fever group antigen in a biopsy or autopsy specimen by IHC, OR
- Isolation of *R. rickettsii* from a clinical specimen in cell culture.

Laboratory supportive:

- Has serologic evidence of elevated IgG or IgM antibody reactive with *R. rickettsii* antigen by IFA, enzyme-linked immunosorbent assay (ELISA), dot-ELISA, or latex agglutination.

Note: Acute illness is best detected by polymerase chain reaction (PCR) and immunohistochemical methods (IHC) in skin biopsy specimens, and occasionally by PCR in appropriate whole blood specimens taken during the first week of illness, prior to antibiotic treatment. Serology can also be employed for detection, however an antibody response may not be detectable in initial samples, and paired acute and convalescent samples are essential for confirmation.

Current commercially available ELISA tests are not quantitative, cannot be used to evaluate changes in antibody titer, and hence are not useful for serological confirmation. IgM tests are not strongly

supported for use in serodiagnosis of acute disease, as the response may not be specific for the agent (resulting in false positives) and the IgM response may be persistent.

Complement fixation (CF) tests and other older test methods are neither readily available nor commonly used. CDC uses in-house IFA IgG testing (cutoff of  $\geq 1:64$ ), preferring simultaneous testing of paired specimens, and does not use IgM results for routine diagnostic testing.

### **Exposure**

Exposure is defined as having been in potential tick habitats within the past 14 days before onset of symptoms. A history of a tick bite is not required. Occupation and travel history should be recorded if relevant to exposure.

### **Case classification**

Confirmed: A clinically compatible case (meets clinical evidence criteria) that is laboratory confirmed.

Probable: A clinically compatible case (meets clinical evidence criteria) that has supportive laboratory results.

Suspect: A case with laboratory evidence of past or present infection but no clinical information available (e.g., a laboratory report).

### **Comment**

Current commercially available ELISA tests are not quantitative, cannot be used to evaluate changes in antibody titer, and hence are not useful for serological confirmation. IgM tests are not strongly supported for use in serodiagnosis of acute disease, as the response may not be specific for the agent (resulting in false positives) and the IgM response may be persistent. Complement fixation (CF) tests and other older test methods are neither readily available nor commonly used. CDC uses in-house IFA IgG testing (cutoff of  $\geq 1:64$ ), preferring simultaneous testing of paired specimens, and does not use IgM results for routine diagnostic testing.

Recently, a growing number of case reports have included commercial laboratory results as supportive evidence. For example, the previous case definitions have used the word “antibody.” A review of testing protocols and reagents distributed to the state laboratories reveal that these existing tests were specific for IgG-class immunoglobulins. With the increased availability of IgM testing at commercial laboratories, it becomes necessary to clarify the traditional meaning of the word “antibody” as used in all previous definitions and routinely used by rickettsial laboratories. The use of IgM is less supported by scientific evidence, and actually is complicated by false negatives when IgG is present and false positives when rheumatoid factor or cross-reactive, non-rickettsial, antibodies are present. Thus, IgM testing cannot be recommended for confirmation of cases at this time. **Acute and convalescent sera from reported and suspect cases should be acquired and sent to the Bureau of Laboratories.**

**A copy of laboratory test results should accompany the case report form.**

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## Rubella

reporting code = 05690  
 case report form: (CDC, 9/97)  
[Rubella surveillance Worksheet](#)  
**MERLIN ELECTRONIC SUBMISSION**

### Clinical case definition

An illness that has all the following characteristics:

- Acute onset of generalized maculopapular rash
- Temperature greater than 99.0 F (greater than 37.2 C), if measured
- Arthralgia/arthritis, lymphadenopathy, or conjunctivitis

### Laboratory criteria for diagnosis

- Isolation of rubella virus from a clinical specimen,  
OR
- Detection of rubella-virus-specific nucleic acid by polymerase chain reaction  
OR
- Significant rise between acute- and convalescent-phase titers in serum rubella immunoglobulin G antibody level by any standard serologic assay,  
OR
- Positive serologic test for rubella immunoglobulin M (IgM) antibody

### Case classification

Confirmed: a case that is laboratory confirmed or that meets the clinical case definition and is epidemiologically linked to a laboratory-confirmed case

Probable: a case that meets the clinical case definition, has no or noncontributory serologic or virologic testing, and is not epidemiologically linked to a laboratory-confirmed case

Suspect: any generalized rash illness of acute onset

### Comment

Case Classification for Import Status:

#### **Epidemiologic Classification of Internationally-Imported and U.S.-Acquired**

*Internationally imported case*: An internationally imported case is defined as a case in which rubella results from exposure to rubella virus outside the United States as evidenced by at least some of the exposure period (12–23 days before rash onset) occurring outside the United States and the onset of rash within 23 days of entering the United States and no known exposure to rubella in the U.S. during that time. All other cases are considered U.S.-acquired cases.

*U.S.-acquired case*: A U.S.-acquired case is defined as a case in which the patient had not been outside the United States during the 23 days before rash onset or was known to have been exposed to rubella within the United States.

U.S.-acquired cases are subclassified into four mutually exclusive groups:

**Import-linked case**: Any case in a chain of transmission that is epidemiologically linked to an internationally imported case.


**Imported-virus case**: a case for which an epidemiologic link to an internationally imported case was not identified but for which viral genetic evidence indicates an imported rubella genotype, i.e., a genotype that is not occurring within the United States in a pattern indicative of endemic transmission. An endemic genotype is the genotype of any rubella virus that occurs in an endemic chain of transmission (i.e., lasting  $\geq 12$  months). Any genotype that is found repeatedly

in U.S.-acquired cases should be thoroughly investigated as a potential endemic genotype, especially if the cases are closely related in time or location.

**Endemic case:** a case for which epidemiological or virological evidence indicates an endemic chain of transmission. Endemic transmission is defined as a chain of rubella virus transmission continuous for  $\geq 12$  months within the United States.

**Unknown source case:** a case for which an epidemiological or virological link to importation or to endemic transmission within the U.S. cannot be established after a thorough investigation. These cases must be carefully assessed epidemiologically to assure that they do not represent a sustained U.S.-acquired chain of transmission or an endemic chain of transmission within the U.S.

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.

 **Specimens from all cases must be submitted to the Bureau of Laboratories for confirmation.**

*Questions about rubella case definition or follow-up, contact the Department of Health, Bureau of Immunization program at (850) 245-4342 or s/c 277-2755*

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## Rubella, Congenital Syndrome

reporting code = 77100  
 case report form: (CDC 71.17, 3/97)  
[Congenital Rubella Syndrome Case Report](#)  
**MERLIN ELECTRONIC SUBMISSION**

### Clinical description

An illness usually manifesting in infancy resulting from rubella infection in utero and characterized by signs or symptoms from the following categories:

- Cataracts/congenital glaucoma, congenital heart disease (most commonly patent ductus arteriosus, or peripheral pulmonary artery stenosis), loss of hearing, pigmentary retinopathy
- Purpura, splenomegaly, jaundice, microcephaly, mental retardation, meningoencephalitis, radiolucent bone disease.

### Clinical case definition

Presence of any defects or laboratory data consistent with congenital rubella infection

### Laboratory criteria for diagnosis

- Isolation of rubella virus

OR

- Demonstration of rubella-specific IgM antibody

OR

- Infant rubella antibody level that persists at a higher level and for a longer period than expected from passive transfer of maternal antibody (i.e., rubella titer that does not drop at the expected rate of a twofold dilution per month)

OR

- PCR positive for rubella virus

### Case classification

Confirmed: a clinically compatible case that is laboratory confirmed

Probable: a case that is not laboratory confirmed and that has any two complications listed in paragraph a) of the clinical description or one complication from paragraph a) and one from paragraph b), and lacks evidence of any other etiology

Suspect: a case with some compatible clinical findings but not does not meet the criteria for a probable case

### Comment

Case Classification for Import Status:

#### **Epidemiologic Classification of Internationally-Imported and U.S.-Acquired**

Congenital Rubella Syndrome cases will be classified epidemiologically as internationally imported or U.S.-acquired, according to the source of infection in the mother, using the definitions below, which parallel the classifications for rubella cases.

*Internationally imported case*: To be classified as an internationally imported CRS case, the mother must have acquired rubella infection outside the U.S. or in the absence of documented rubella infection, the mother was outside the United States during the period when she may have had exposure to rubella that affected her pregnancy (from 21 days before conception and through the first 24 weeks of pregnancy).

*U.S.-acquired case:* A US-acquired case is one in which the mother acquired rubella from an exposure in the United States. U.S.-acquired cases are subclassified into four mutually exclusive groups:

**Import-linked case:** Any case in a chain of transmission that is epidemiologically linked to an internationally imported case.


**Import-virus case:** a case for which an epidemiologic link to an internationally imported case was not identified but for which viral genetic evidence indicates an imported rubella genotype, i.e., a genotype that is not occurring within the United States in a pattern indicative of endemic transmission. An endemic genotype is the genotype of any rubella virus that occurs in an endemic chain of transmission (i.e., lasting  $\geq 12$  months). Any genotype that is found repeatedly in U.S.-acquired cases should be thoroughly investigated as a potential endemic genotype, especially if the cases are closely related in time or location.

**Endemic case:** a case for which epidemiological or virological evidence indicates an endemic chain of transmission. Endemic transmission is defined as a chain of rubella virus transmission continuous for  $\geq 12$  months within the United States.

**Unknown source case:** a case for which an epidemiological or virological link to importation or to endemic transmission within the U.S. cannot be established after a thorough investigation. These cases must be carefully assessed epidemiologically to assure that they do not represent a sustained U.S.-acquired chain of transmission or an endemic chain of transmission within the U.S.

Note: Internationally imported, import-linked, and imported-virus cases are considered collectively to be import-associated cases.

1. A case that demonstrates laboratory evidence of infection, but without any clinical symptoms or signs is not reportable.
2. In probable cases, either or both of the eye-related findings (i.e., cataracts and congenital glaucoma) are interpreted as a single complication. In cases classified as infection only, if any compatible signs or symptoms (e.g., hearing loss) are identified later, the case is reclassified as confirmed.

 **Specimens from all cases must be submitted to the Bureau of Laboratories for confirmation.**

*Questions about rubella case definition or follow-up, contact the Department of Health, Bureau of Immunization program at (850) 245-4342 or s/c 277-2755*

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# Salmonellosis

reporting code = 00300  
case report form: (9/10, v1.2)  
[Salmonellosis Case Report Form](#)  
**MERLIN ELECTRONIC SUBMISSION**

## Clinical description

An illness of variable severity commonly manifested by diarrhea, abdominal pain, nausea, and sometimes vomiting. Asymptomatic infections may occur, and the organism may cause extraintestinal infections.

## Laboratory criteria for diagnosis

Confirmed: Isolation of *Salmonella* from a clinical specimen.

Suspect: Detection of *Salmonella* from a clinical specimen using a non-culture based method.

## Case classification

Confirmed: a case that meets the confirmed laboratory criteria for diagnosis. When available, O and H antigen serotype characterization should be reported.

Probable: a clinically compatible case that is epidemiologically linked to a confirmed case.

Suspect: a case that meets the suspect laboratory criteria for diagnosis.

## Comment

Both asymptomatic infections and infections at sites other than the gastrointestinal tract, if laboratory confirmed, are considered confirmed cases and should be reported. Illness due to *Salmonella* serovar Typhi should be reported as Typhoid fever (code=00200), not as salmonellosis (code=00300).

Serogroup and serotype information can sometimes be difficult to read or interpret on laboratory reports. This information is key to understanding the epidemiology of salmonellosis in Florida and all details should be entered accurately and appropriately into Merlin. PFGE can be performed on *Salmonella* isolates during an outbreak investigation by the Bureau of Laboratories, if requested.

**Typhoid fever (code=00200): all *Salmonella* serovar Typhi isolates must be sent to the Bureau of Laboratories for confirmation and additional testing.**

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## Saxitoxin Poisoning (Paralytic Shellfish Poisoning)

reporting code = 98840

case report form: N/A

### Clinical description

A person with circumoral paresthesia, numbness or tingling of the face, arms, and legs, ataxia, respiratory distress, headache, dizziness, weakness, nausea, and vomiting. Onset is 15 minutes to 10 hours following the consumption of puffer fish caught off the Florida coast. Illness can also be linked to consumption of molluscan shellfish from non-Florida waters such as from northern Pacific and other cold water sources (not known to be present in molluscan shellfish in Florida at this time). In severe cases muscle paralysis and respiratory failure occur, with death occurring in 2 to 25 hours. Florida cases associated with puffer fish consumption experienced milder symptoms and fewer hospitalizations.

### Laboratory criteria for diagnosis

- Toxin detection in urine or epidemiology linked food specimen

### Case classification

Confirmed: a clinically compatible case that is laboratory confirmed

Suspect: a clinically compatible case that is not laboratory confirmed and has a demonstrated epidemiologic link

### Comment

Contact your regional environmental epidemiologist for information.

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## Severe Acute Respiratory Syndrome-associated Coronavirus (SARS-CoV) disease

reporting code= 07982

case report form: [International SARS Case Report Form](#)

### Clinical description

Early illness:

- Presence of two or more of the following features: fever (might be subjective), chills, rigors, myalgia, headache, diarrhea, sore throat, rhinorrhea

Mild-to-moderate respiratory illness:

- Temperature of >100.4° F (>38° C) and
- One or more clinical findings of lower respiratory illness (e.g., cough, shortness of breath, difficulty breathing)

Severe respiratory illness:

- Meets clinical criteria of mild-to-moderate respiratory illness, and
- One or more of the following findings:
  - Radiographic evidence of pneumonia, or
  - Acute respiratory distress syndrome, or
  - Autopsy findings consistent with pneumonia or acute respiratory distress syndrome without an identifiable cause

### Epidemiologic Criteria

Possible exposure to SARS-associated coronavirus (SARS-CoV):

One or more of the following exposures in the 10 days before onset of symptoms:

- Travel to a foreign or domestic location with documented or suspected recent transmission of SARS-CoV or
- Close contact with a person with mild-to-moderate or severe respiratory illness and with history of travel in the 10 days before onset of symptoms to a foreign or domestic location with documented or suspected recent transmission of SARS-CoV

Likely exposure to SARS-CoV:

One or more of the following exposures in the 10 days before onset of symptoms:

- Close contact with a confirmed case of SARS-CoV disease or
- Close contact with a person with mild-moderate or severe respiratory illness for whom a chain of transmission can be linked to a confirmed case of SARS-CoV disease in the 10 days before onset of symptoms

### Laboratory criteria for diagnosis

Tests to detect SARS-CoV are being refined, and their performance characteristics assessed; therefore, criteria for laboratory diagnosis of SARS-CoV are changing. The following are the general criteria for laboratory confirmation of SARS-CoV:

- Detection of serum antibody to SARS-CoV by a test validated by CDC (e.g., enzyme immunoassay [EIA]),

OR

- Isolation in cell culture of SARS-CoV from a clinical specimen,

OR

- Detection of SARS-CoV RNA by a reverse-transcription-polymerase chain reaction (RT-PCR) test validated by CDC and with subsequent confirmation in a reference laboratory (e.g., CDC)

## Exclusion Criteria

A person may be excluded as a SARS report under investigation (SARS RUI), including as a CDC-defined probable SARS-CoV case, if any of the following applies:

- An alternative diagnosis can explain the illness fully
- Antibody to SARS-CoV is undetectable in a serum specimen obtained >28 days after onset of illness
- The case was reported on the basis of contact with a person who was excluded subsequently as a case of SARS-CoV disease; then the reported case also is excluded, provided other epidemiologic or laboratory criteria are not present

## Case classification

*SARS RUI (Report Under Investigation)*

*Reports in persons from areas where SARS is not known to be active:*

SARS RUI-1: Patients with severe illness compatible with SARS in groups likely to be first affected by SARS-CoV7 if SARS-CoV is introduced from a person without clear epidemiologic links to known cases of SARS-CoV disease or places with known ongoing transmission of SARS-CoV

*Reports in persons from areas where SARS activity is occurring:*

SARS RUI-2: Patients who meet the current clinical criteria for mild-to-moderate illness and the epidemiologic criteria for possible exposure (spring 2003 CDC definition for suspect cases<sup>8</sup>)

SARS RUI-3: Patients who meet the current clinical criteria for severe illness and the epidemiologic criteria for possible exposure (spring 2003 CDC definition for probable cases<sup>8</sup>)

SARS RUI-4: Patients who meet the clinical criteria for early or mild-moderate illness and the epidemiologic criteria for likely exposure to SARS-CoV

*SARS-CoV disease classification*


Confirmed: a case of SARS-CoV disease in a person who has a clinically compatible illness (i.e., early, mild-to-moderate, or severe) that is laboratory confirmed

Probable: a case of SARS-CoV disease in a person who meets the clinical criteria for severe respiratory illness and the epidemiologic criteria for likely exposure to SARS-CoV

## Comment

Information regarding the current criteria for laboratory diagnosis of SARS-CoV is available at

<http://www.cdc.gov/ncidod/sars/labdiagnosis.htm>

 **Specimens from all cases must be submitted to the Bureau of Laboratories for confirmation.**

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## Shigellosis

reporting code = 00490  
case report form: N/A

### Clinical description

An illness of variable severity characterized by diarrhea, fever, nausea, cramps, and tenesmus. Asymptomatic infections may occur.

### Laboratory criteria for diagnosis

**Confirmed:** Isolation of *Shigella* from a clinical specimen.

**Suspect:** Detection of *Shigella* from a clinical specimen using a non-culture based method.

### Case classification

**Confirmed:** a case that meets the confirmed laboratory criteria for diagnosis. When available, O antigen serotype characterization should be reported.

**Probable:** a clinically compatible case that is epidemiologically linked to a confirmed case.

**Suspect:** a case that meets the suspect laboratory criteria for diagnosis.

### Comment

Both asymptomatic infections and infections at sites other than the gastrointestinal tract, if laboratory confirmed, are considered confirmed cases and should be reported.

PFGE can be performed on *Shigella* isolates during an outbreak investigation by the Bureau of Laboratories, if requested.

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# Smallpox

reporting code = 05090  
case report form: N/A

## Clinical description

An illness with acute onset of fever  $\geq 101^{\circ}$  F ( $\geq 38.3^{\circ}$  C) followed by a rash characterized by firm, deep seated vesicles or pustules in the same stage of development without other apparent cause. Clinically consistent cases are those presentations of smallpox that do not meet this classical clinical case definition: a) hemorrhagic type, b) flat type, and c) variola sine eruptione. (Detailed clinical description is available on the CDC web site, see URL: <http://www.bt.cdc.gov/agent/smallpox/index.asp>).

## Laboratory criteria for diagnosis

- 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).

## Case classification


**Confirmed:** a case of smallpox that is laboratory confirmed, or a case that meets the clinical case definition that is epidemiologically linked to a laboratory confirmed case.

**Probable:** a case that meets the clinical case definition, or a clinically consistent case that does not meet the clinical case definition and has an epidemiological link to a confirmed case of smallpox.

**Suspect:** a case with a generalized, acute vesicular or pustular rash illness with fever preceding development of rash by 1-4 days.

## Comment

**A case may 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.**

 **Specimens from all cases must be submitted to the Bureau of Laboratories for confirmation.**

This smallpox case definition is to be used only during post-event surveillance. The case definition described in Guide A of the Smallpox Response Plan and Guidelines (Version 3) on the CDC bioterrorism preparedness website (URL: <http://www.bt.cdc.gov/agent/smallpox/response-plan/index.asp>) includes different criteria for a suspect case than this smallpox case definition that the Council of State and Territorial Epidemiologists approved for use in the National Notifiable Diseases Surveillance System (NNDSS). The smallpox case definition on the CDC bioterrorism web site is more sensitive and less specific than this case definition, in that a "suspect" case is defined as: "a case with febrile rash illness with fever preceding the development of rash by 1-4 days."

Indications for laboratory testing of patients with suspected smallpox should be followed as described in detail in Guide A of the CDC Smallpox Response Plan. Laboratory diagnostic testing for variola virus should be conducted in Level C or D laboratories only.

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## Staphylococcus aureus Community-associated Mortality

reporting code =  
 case report form: (12/08)  
[Staphylococcus aureus Community-associated mortality](#)

### Clinical description

Symptoms may include pneumonia, sepsis, or meningitis which may quickly lead to death.

### Clinical case definition

- A fatal outcome

AND

- Death occurred outside a hospital setting *or* if death occurred in the hospital setting a clinical culture positive for *S. aureus* that was obtained  $\leq$  48 hours after admission to the hospital

### Laboratory criteria for diagnosis

- A laboratory culture positive for *Staphylococcus aureus* from a sterile or respiratory site

### Exclusion Criteria

- Hospitalized within the year prior to death. For children less than one year old, a hospitalization other than childbirth.

OR

- Admission to a nursing home, skilled nursing facility, or hospice within the last year

OR

- Dialysis within the last year

OR

- Surgery within the last year

OR

- Indwelling catheters or medical devices that pass through the skin into the body in the last year

### Case classification

Confirmed: A case that 1) meets the clinical case definition AND 2) laboratory criteria AND 3) does NOT meet any of the exclusion criteria.

### Comment

 **Laboratory Specimens: Clinical specimens for addition testing must be sent to the Florida Department of Health Bureau of Laboratories.**

Acceptable specimens include:

1. *Staphylococcus aureus* cultures - a fresh slant on appropriate media is preferred. *S. aureus* cultures must be sent to the Bureau of Laboratories-Jacksonville.

AND

2. For cases with Respiratory Symptoms: Respiratory specimens for viral testing must be collected if possible. Acceptable respiratory specimens for viral testing: nasopharyngeal swabs and aspirates, oropharyngeal aspirates or washes, throat swabs, tracheal aspirates or bronchoalveolar lavage. Nasopharyngeal aspirates are the samples of choice. Tissue specimens from the respiratory track may also be sent. These specimens may be sent to either the Bureau of Laboratories-Jacksonville or -Tampa laboratories.

Swab specimens should be collected using swabs with a Dacron® tip and an aluminum plastic shaft and should be submitted in viral transport medium (e.g., viral culturettes). Swabs with calcium alginate or cotton tips and wooden shafts are unacceptable.

**A copy of laboratory test results must accompany the paper case report form.**

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## **Staphylococcus aureus, Vancomycin Non-Susceptible**

reporting code = 38100 (Intermediate)  
 = 38101 (Resistant)  
 case report form: N/A

### **Clinical description**

*S. aureus* can produce a variety of syndromes with clinical manifestations including skin and soft tissue infections, empyema, bloodstream infection, pneumonia, osteomyelitis, septic arthritis, endocarditis, sepsis, and meningitis. *S. aureus* may also colonize individuals who remain asymptomatic. The most frequent site of *S. aureus* colonization is the nares.

### **Laboratory criteria for diagnosis**

Intermediate Resistance (GISA/VISA):

- Isolation of *Staphylococcus aureus* from a clinical specimen with an MIC 4-8 µg/ml to Vancomycin

Resistance (GRSA/VRSA):

- Isolation of *Staphylococcus aureus* from a clinical specimen with an MIC  $\geq$  16 µg/ml to Vancomycin

### **Case classification**

Confirmed: a clinically compatible case that is laboratory confirmed

### **Comment**



**Isolates from all cases must be submitted to the Bureau of Laboratories for confirmation.**

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## **Staphylococcus Enterotoxin B (SEB)**

reporting code = 38200  
 case report form: N/A

### **Clinical description**

Staphylococcal enterotoxin B (SEB) is an exotoxin produced by *Staphylococcus aureus*. Clinical signs include nonspecific flu-like symptoms.

- General Symptoms: fever, chills, headache, myalgia, conjunctival injection, varying degrees of prostration and potentially septic shock or death.
- Aerosolized Exposure: nonproductive cough for up to 4 weeks, retrosternal chest pain and shortness of breath.
- Ingestion Exposure: nausea or vomiting and diarrhea.

### **Laboratory criteria**

- N/A

### Case classification

Confirmed: a clinically compatible case that is diagnosed by clinical signs and epidemiology. Staphylococcal enterotoxin B may be found in blood, urine, respiratory secretions or nasal swabs for a short period of time. The toxin is detected by ELISA and chemiluminescence tests. Specimens that are suspected of containing the toxin should be sent immediately to the state laboratory.

### Comment

 Specimens from all cases must be submitted to the Bureau of Laboratories for confirmation. This condition has been identified as a potential bioterrorism agent by the CDC.

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## Streptococcal Disease, Invasive, Group A

reporting code = 03400

case report form: (rev. 11/00)

[Confidential Invasive Group A Streptococcus Case Report](#)

### Clinical description

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 nonfocal bacteremia.

### Laboratory criteria for diagnosis

- Isolation of group A *Streptococcus* (*Streptococcus pyogenes*) by culture from a normally sterile site (e.g., blood or cerebrospinal fluid, or, less commonly, joint, pleural, or pericardial fluid)

### Case classification

Confirmed: a clinically compatible case that is laboratory confirmed

**A copy of laboratory test results should accompany the case report form.**

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## ***Streptococcus pneumoniae*, Invasive Disease**

reporting code = 04823 (Drug Resistant)  
= 04830 (Susceptible)

case report form: (CDC, 6/99)

[Streptococcus pneumoniae Surveillance Worksheet](#)

**MERLIN ELECTRONIC SUBMISSION**

### **Clinical description**

*Streptococcus pneumoniae* causes many clinical syndromes, depending on the site of infection (e.g., acute otitis media, pneumonia, bacteremia, or meningitis).

### **Laboratory criteria for diagnosis**

- Isolation of *S. pneumoniae* from a normally sterile site (e.g., blood, cerebrospinal fluid, or, less commonly, joint, pleural, or pericardial fluid)

AND for resistant isolates:

- Intermediate- or high-level resistance of the *S. pneumoniae* isolate to at least one antimicrobial agent currently approved for use in treating pneumococcal infection (12, 13)\*

### **Case classification**

**Confirmed:** a clinically compatible case that is laboratory confirmed

### **Comment**

**Report both resistant and non-resistant isolates. Extended data in Merlin is only required to be completed for those cases <5 years old.**

\*Resistance defined by Clinical and Laboratory Standards Institute (CLSI) [formerly National Committee for Clinical Laboratory Standards (NCCLS)] approved methods and CLSI-approved interpretive minimum inhibitory concentration (MIC) standards ( $\mu\text{g/mL}$ ) for *S. pneumoniae*. CLSI recommends that all invasive *S. pneumoniae* isolates found to be “possibly resistant” to beta-lactams (i.e., an oxacillin zone size of <20 mm) by oxacillin screening should undergo further susceptibility testing by using a quantitative MIC method acceptable for penicillin, extended-spectrum cephalosporins, and other drugs as clinically indicated.

#### **References**

12. National Committee for Clinical Laboratory Standards. Performance standards for antimicrobial susceptibility testing. Villanova, PA: National Committee for Clinical Laboratory Standards, 1994;14(16); NCCLS document M100-S5.

13. CDC. Defining the public health impact of drug-resistant *Streptococcus pneumoniae*: report of a working group. MMWR 1996;45(No. RR-1).

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# Toxoplasmosis

reporting code = 13090  
case report form: NA

## Clinical description

A systemic protozoan disease that is frequently asymptomatic, or may be present as an acute disease resembling infectious mononucleosis with symptoms including fever, sore throat, malaise, headache, myalgias, sweats, anorexia, abdominal pain, chest pain, or cough. Among immunodeficient individuals such as AIDS patients, the disease may include cerebral signs, pneumonia, generalized skeletal muscle involvement, myocarditis, a maculopapular rash and death.

## Laboratory criteria for diagnosis

- Demonstration of the *Toxoplasma gondii* in tissues or body fluids, or fourfold change in specific IgG antibody titers in sequential sera.

## Case classification

Confirmed: a clinically compatible case that is laboratory confirmed

Probable: an asymptomatic case that is laboratory confirmed

## Comment

IgM antibody detection will confirm acute disease in a patient with a fourfold rise in IgG

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## Tetanus

reporting code = 03700  
case report form: (CDC, 9/97)  
[Tetanus Surveillance Worksheet](#)  
MERLIN ELECTRONIC SUBMISSION

### Clinical case definition

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. Diagnosis of tetanus by a healthcare provider.

Death, with tetanus listed on the death certificate as the cause of death or a significant condition contributing to death.

### Laboratory criteria for diagnosis

N/A

### Case classification

Probable: In the absence of a more likely diagnosis, an acute illness with muscle spasms or hypertonia; AND diagnosis of tetanus by a healthcare provider.

OR

Death, with tetanus listed on the death certificate as the cause of death or a significant condition contributing to death.

**Note:** there is no definition for “confirmed” tetanus.

*Questions regarding tetanus case definition follow up should be directed to the Department of Health, Bureau of Immunization program at 850-245-4342*

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# Trichinellosis

reporting code = 12400  
case report form: (CDC 54.7A, 12/10)  
[Trichinosis Surveillance Case Report](#)

## Clinical description

A disease caused by ingestion of *Trichinella* larvae. The disease has variable clinical manifestations. Common signs and symptoms among symptomatic persons include eosinophilia, fever, myalgia, and periorbital edema.

## Laboratory criteria for diagnosis

- Demonstration of *Trichinella* larvae in tissue obtained by muscle biopsy, or
- Positive serologic test for *Trichinella* (EIA, immunofluorescence)

## Case classification

Confirmed: a clinically compatible case that is laboratory confirmed

## Comment

In an outbreak setting, at least one case must be laboratory confirmed. Associated cases should be reported as confirmed if the patient shared an epidemiologically implicated meal (raw or undercooked meat, particularly pork products or wild game) or ate an epidemiologically implicated meat product and has either a positive serologic test for trichinosis or a clinically compatible illness.

**Reporting:** Next business day; reporting triggers include a clinically compatible case with laboratory confirmation, diagnosis of trichinellosis in health care record, death certificate lists trichinellosis as cause of death or significant condition.

**A copy of laboratory test results should accompany the paper case report form.**

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## Tularemia (*Francisella tularensis*)

reporting code = 02190  
 case report form: (CDC 56.50, 1/06)  
[Tularemia Case Investigation Report](#)

### Clinical description

An illness characterized by several distinct forms, including:

Fever (>38°C) AND one or more of the following:

- Ulceroglandular: cutaneous ulcer with regional lymphadenopathy;
- Glandular: regional lymphadenopathy with no ulcer;
- Oculoglandular: conjunctivitis with preauricular lymphadenopathy;
- Oropharyngeal – cervical lymphadenopathy and stomatitis or pharyngitis or;
- Intestinal: intestinal pain, vomiting, and diarrhea;
- Pneumonic: pleuropneumonitis or hilar lymphadenopathy;
- Typhoidal: febrile illness without early localizing signs and symptoms

### Laboratory criteria for diagnosis

Confirmatory:

- Isolation of *Francisella tularensis* from a clinical specimen  
OR
- Fourfold or greater change in serum antibody titer to *Francisella tularensis* antigen

Presumptive:

- 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 specimen by fluorescent assay

### Case classification

Confirmed: a clinically compatible case that is laboratory confirmed

Probable: a clinically compatible case with laboratory results indicative of presumptive infection

### Comment

Follow up with laboratory staff to identify any possible exposures

Clinical diagnosis is supported by evidence or history of a tick or deerfly bite, exposure to tissues of a mammalian host of (rodent, rabbit, hare, etc.) *Francisella tularensis*, or exposure to potentially contaminated water, laboratory exposure or resident or recent travel to a *F. tularensis* endemic state (Arkansas, Missouri, Montana, Oklahoma or South Dakota).

 **Specimens from all cases must be submitted to the Bureau of Laboratories for confirmation. This condition has been identified as a potential bioterrorism agent by the CDC.**

**Reporting:** Immediate. Reporting triggers include ordering a tularemia specific diagnostic test including PCR, patient with consistent clinical presentation **and** exposure history, diagnosis of tularemia on health care record, death certificate lists tularemia as cause or significant condition.

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## Typhoid Fever

reporting code = 00200

case report form: (CDC 52.5, 10/03)

[Typhoid and Paratyphoid Fever Surveillance Report](#)

### Clinical description

An illness caused by *Salmonella* serovar Typhi that is often characterized by insidious onset of sustained fever, headache, malaise, anorexia, relative bradycardia, constipation or diarrhea, and nonproductive cough; however, many mild and atypical infections occur. Carriage of *S. Typhi* may be prolonged.

### Laboratory criteria for diagnosis

- Isolation of *S. Typhi* from blood, stool, or other clinical specimen

### Case classification

Confirmed: a clinically compatible case that is laboratory confirmed

Probable: a clinically compatible case that is epidemiologically linked to a confirmed case in an outbreak.

### Comment

Isolation of the organism is required for confirmation. Serologic evidence alone is not sufficient for diagnosis. Asymptomatic carriage should not be reported as typhoid fever. Infection with *Salmonella* Typhi should only be reported under the Typhoid Fever disease (code=00200) and not as salmonellosis (code = 00300).



**Specimens from all cases must be submitted to the Bureau of Laboratories for confirmation.**

**A copy of laboratory test results should accompany the paper case report form.**

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## Typhus Fever, epidemic (*Rickettsia prowazekii*)

reporting code = 08000  
case report form: N/A

### Clinical description

Several distinct *Rickettsiae* species cause typhus fevers in humans. Each agent produces disease with a distinct epidemiology, but all cause illness, usually with fever, headache, or rash, or a combination of these.

### Laboratory criteria

Demonstration of *Rickettsia prowazekii* species in tissues or body fluids, or fourfold change in specific antibody titers in sequential sera.

### Case classification

Confirmed: a clinically compatible case that is laboratory confirmed

Probable: a clinically compatible case that is lacking laboratory confirmation

### Comment

 **Specimens from all cases must be submitted to the Bureau of Laboratories for confirmation. This condition has been identified as a potential bioterrorism agent by the CDC.**

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## Typhus Fever, endemic (*Rickettsia typhi*)

reporting code = 08100  
case report form: N/A

### Clinical description

Several distinct *Rickettsiae* species cause typhus fevers in humans. Each agent produces disease with a distinct epidemiology, but all cause illness, usually with fever, headache, or rash, or a combination of these.

### Laboratory criteria for diagnosis

Demonstration of *Rickettsia typhi* in tissues or body fluids, or fourfold change in specific antibody titers in sequential sera.

### Case classification

Confirmed: a clinically compatible case that is laboratory confirmed

Probable: a clinically compatible case that is lacking laboratory confirmation

### Comment

 **Specimens from all cases must be submitted to the Bureau of Laboratories for confirmation.**

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## Vaccinia Disease

reporting code = 9990  
case report form: VAERS

### Clinical description

Vaccinia disease can present as any number of clinical manifestations ranging from self-limited responses to life-threatening events due to receiving or being inadvertently inoculated with vaccinia as a result of smallpox vaccination. Clinical complications can include any of the following:

- Eczema vaccinatum - Characterized by localized or generalized popular, vesicular, or pustular rash, which can occur anywhere on the body, with a predilection for areas of previous atopic dermatitis (e.g., face, forearms, antecubital fossa, popliteal fossa). Rash onset may occur concurrently or shortly after development of the Smallpox vaccine lesion and is often accompanied by fever, malaise, lymphadenopathy and prostration or severe systemic illness.
- Erythema multiforme major (Stevens-Johnsons Syndrome) - Characterized by systemic symptoms (fever, malaise, prostration) and involvement of 2 or more mucosal surfaces or 10% of the body surface area.
- Fetal vaccinia (Congenital vaccinia) - Characterized by skin lesions (e.g., vesicular, pustular, or ulcerative) and/or organ involvement in a newborn. The skin lesions are similar to those of Generalized Vaccinia or Progressive Vaccinia and can be confluent and extensive.
- Post-vaccinial encephalitis (Post vaccinial encephalomyelitis) - Post-Vaccinial Encephalopathy or Post-Vaccinial Encephalitis, onset of symptoms 6-15 days post-vaccination, is characterized by any change in mental status (confusion, delirium, drowsiness, restlessness, disorientation, amnesia, seizures, loss of consciousness, coma) or in sensorimotor function (altered sensation, weakness, paresis, aphasia, incontinence or urinary retention, obstinate constipation) or any combination thereof.
- Progressive vaccinia - Characterized by a painless progressive and ulcerating lesion at the vaccination site that does not heal, often with central necrosis, and with little or no inflammation.
- Generalized vaccinia - Characterized by disseminated maculopapular or vesicular rash, frequently on an erythematous base, usually occurring 6-9 days after first-time vaccination. Lesions may occur on any part of the body, most often on the trunk and abdomen, less commonly on the face and limbs. Though usually benign and self-limiting, can develop into severe systemic illness.
- Inadvertent inoculation - Characterized by extensive vesicular and pustular lesion/s at a distant different location on the vaccinee, or anywhere on a close contact, which is not generalized but may involve a large contiguous area.
- Ocular vaccinia - Characterized by inflammation of peri-ocular soft tissue or the eye itself (blepharitis, conjunctivitis, keratitis, iritis) or any combination thereof.
- Pyogenic infection - Characterized by (staphylococcal infections) vesiculo-pustular lesion at the site of vaccination, often spreading peripherally in circumferential fashion, with clearing behind the advancing border. Bacterial lymphangitis and regional lymphadenitis may occur, but most often the lesions are solely superficial infections  
OR  
(streptococcal infections) a piled up eschar, heaping at the vaccination site. Lymphangitis occurs commonly as does edematous painful regional lymphadenitis  
OR  
(enteric and anaerobic infections) purulence with or without extensive necrosis at the vaccination site. Necrotic fasciitis has also been encountered in some cases.
- Other serious adverse events - Serious to life-threatening events resulting in hospitalization, permanent disability, life-threatening illness, or death in a Smallpox vaccinee, or a close contact of a vaccinee.



**Laboratory criteria for diagnosis**

- None unless laboratory confirmation is indicated to distinguish from other infections or other pox.

**Case classification**

Probable: clinical features compatible with the diagnosis, other causes are excluded, and supportive information is available.

Suspect: clinical features compatible with the diagnosis but either further investigation is required

OR

additional investigation of the case did not provide supporting evidence for the diagnosis AND did not identify an alternative diagnosis.

**Comment**

 **Specimens from all cases must be submitted to the Bureau of Laboratories for confirmation.**

*Questions regarding case definition follow up should be directed to the Department of Health,  
Bureau of Immunization program at (904) 487-2755 or s/c 277-2755*

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## Varicella (Chickenpox)

reporting code = 05290  
 case report form: (CDC, 7/07)  
[Varicella Surveillance Worksheet](#)  
**MERLIN ELECTRONIC SUBMISSION**

### Clinical description

An illness with acute onset of diffuse (generalized) maculo-papulovesicular rash without other apparent cause.

### Laboratory criteria for diagnosis

- Isolation of varicella virus from a clinical specimen,  
OR
- Direct fluorescent antibody (DFA),  
OR
- Polymerase chain reaction (PCR),  
OR
- Significant rise in serum varicella immunoglobulin G (IgG) antibody level by any standard serologic assay

### Case classification

Confirmed: a case that is laboratory confirmed or that meets the clinical case definition and is epidemiologically linked to a confirmed or probable case

Probable: a case that meets the clinical case definition, is not laboratory confirmed, and is not epidemiologically linked to another probable or confirmed case

### Comment

Two probable cases that are epidemiologically linked would be considered confirmed, even in the absence of laboratory confirmation.

In vaccinated persons who develop varicella more than 42 days after vaccination (breakthrough disease), the disease is almost always mild with fewer than 50 skin lesions and shorter duration of illness. The rash may also be atypical in appearance (maculopapular with few or no vesicles).

Laboratory confirmation of cases of varicella is available through the Bureau of Laboratories; laboratory confirmation should be obtained for fatal cases, in outbreak settings and in other special circumstances. Genotyping at the CDC is recommended in the case of large outbreaks. Varicella IgM testing is not always available from commercial laboratories and is not recommended.

**Varicella cases should only be reported for cases of chickenpox. Herpes-zoster infections (Shingles) are not reportable.**

*Questions regarding case definition follow up should be directed to the Department of Health, Bureau of Immunization program at (904) 487-2755 or s/c 277-2755*

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## Varicella Mortality

reporting code= 05290  
case report form: (CDC, 7/07)  
[Varicella Death Investigation Worksheet](#)

### Case classification

**Confirmed:** A confirmed case of varicella which contributes directly or indirectly to acute medical complications which result in death.

**Probable:** A probable case of varicella which contributes directly or indirectly to acute medical complications which result in death.

### Comment

Cases of varicella infection that resulted in death should be reported under the reporting code for varicella (disease code 05290) in Merlin with the date of death listed in the case information. It should be noted in the Merlin case notes that infection due to varicella was determined as the cause of death.

Laboratory confirmation of cases of varicella is available through the Bureau of Laboratories; laboratory confirmation should be obtained for fatal cases.

The additional varicella Death Investigation Worksheet must still be filled out and sent to the BOE. Please see case definition for varicella (Chickenpox) in order to classify a case of varicella infection that did not result in death.

**Varicella mortality should only be reported for cases of chickenpox, herpes-zoster infections (Shingles) are not reportable.**

*Questions regarding case definition follow up should be directed to the Department of Health, Bureau of Immunization program at (904) 487-2755 or s/c 277-2755*

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## ***Vibrio*, Infections**

(see also Cholera, *Vibrio*)

reporting codes = 00193 *Vibrio*, other  
 = 00194 *V. fluvialis*  
 = 00195 *V. alginolyticus*  
 = 00196 *V. hollisae*  
 = 00197 *V. mimicus*  
 = 00198 *V. cholerae* type non-O1  
 = 00199 *V. vulnificus*  
 = 00540 *V. parahaemolyticus*

case report form: (CDC 52.79, 7/00)

[Cholera and Other \*Vibrio\* Illness Surveillance Report](#)

### **Clinical description**

An infection of variable severity characterized by diarrhea and vomiting, primary septicemia, or wound infections. Asymptomatic infections may occur, and the organism may cause extra intestinal infections.

### **Laboratory criteria for diagnosis**

Isolation of a *Vibrio* species other than toxigenic *Vibrio cholerae* O1 or O139 from a clinical specimen.

### **Case classification**

**Confirmed:** A case that meets the laboratory criteria for diagnosis. Note that species identification and, if applicable, serotype designation (i.e., *Vibrio cholerae* non-O1/non-O139) should be reported.

**Probable:** A clinically-compatible symptomatic case that is epidemiologically linked to a confirmed case.

### **Comment**

Infections due to **toxigenic** *Vibrio cholerae* O1 or O139 should **NOT** be reported as *Vibrio*, infections but **SHOULD** be reported as *Vibrio cholerae* type O1 (reporting code=00190)

 **Isolates from all cases must be submitted to the Bureau of Laboratories for confirmation. The Florida Department of Agriculture and Consumer Services (DACS) Molluscan Shellfish Program should be notified through your Regional Environmental Epidemiologist of any *Vibrio* infections thought to be associated with shellfish consumption.**

Contact your Regional Environmental Epidemiologist for information.

**A copy of laboratory test results and shellfish tags (where appropriate) should accompany the paper case report form.**

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## Viral Hemorrhagic Fever

reporting code = 07889  
case report form: N/A

### Clinical description

Diagnosis of viral hemorrhagic fever must be made by a physician. Common presenting complaints are fever, myalgia, and prostration, with headache, pharyngitis, conjunctival injection, flushing, gastrointestinal symptoms. This may be complicated by spontaneous bleeding, petechiae, hypotension and perhaps shock, edema and neurologic involvement.

Viral Hemorrhagic Fever, due to:

- Ebola virus
- Marburg virus
- Crimean-Congo hemorrhagic fever viruses
- Lassa virus
- Lujo virus
- New world arenaviruses (Guanarito, Machupo, Junin, Sabia viruses)

Clinical presentation criteria:

- Fever >40° C AND
- One or more of the following clinical findings:
  - Severe headache
  - Muscle pain
  - Erythematous maculopapular rash on the trunk with fine desquamation 3–4 days after rash onset
  - Vomiting
  - Diarrhea
  - Pharyngitis (arenaviruses only)
  - Abdominal pain
  - Bleeding not related to injury
  - Retrosternal chest pain (arenaviruses only)
  - Proteinuria (arenaviruses only)
  - Thrombocytopenia

### Laboratory evidence

- One or more of the following laboratory findings:
  - Detection of VHF viral antigens in blood by enzyme-linked immunosorbent assay (ELISA) antigen detection
  - VHF viral isolation in cell culture for blood or tissues
  - Detection of VHF viral genes using reverse transcriptase with polymerase chain reaction amplification (RT-PCR) from blood or tissues
  - Detection of VHF viral antigens in tissues by immunohistochemistry

### Exposure criteria

- One or more of the following exposures within the 3 weeks before onset of symptoms:

- Contact with blood or other body fluids of a patient with VHF
- Residence in—or travel to—a VHF endemic area
- Work in a laboratory that handles VHF specimens
- Work in a laboratory that handles bats, rodents, or primates from endemic areas

OR

- Exposure within the past 3 weeks to semen from a confirmed acute or convalescent case of VHF within the 10 weeks of onset of symptoms

### **Case classification**

Confirmed: A clinically compatible illness that is laboratory confirmed.

Suspect: A case that meets the clinical and epidemiologic linkage criteria

### **Comment**

**Detection of a possible case requires immediate notification of the Bureau of Epidemiology which is available 24/7 at (850) 245-4401.**

 **Specimens from all cases must be submitted to the Bureau of Laboratories for confirmation by the CDC.**

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## Yellow Fever

reporting code = 06090

case report form: [Vector-borne Disease Infection Case Report](#)

### Clinical description

A mosquito-borne viral illness characterized by acute onset and constitutional symptoms followed by a brief remission and a recurrence of fever, hepatitis, albuminuria, and symptoms and, in some instances, renal failure, shock, and generalized hemorrhages

### Laboratory criteria for diagnosis

- Fourfold or greater rise in yellow fever antibody titer in a patient who has no history of recent yellow fever vaccination and cross-reactions to other flaviviruses have been excluded
- OR
- Demonstration of yellow fever virus, antigen, or genome in tissue, blood, or other body fluid

### Case classification

Confirmed: a clinically compatible case that is laboratory confirmed

Probable: a clinically compatible case with supportive serology (stable elevated antibody titer to yellow fever virus [e.g.,  $\geq 32$  by complement fixation,  $\geq 256$  by immunofluorescence assay,  $\geq 320$  by hemagglutination inhibition,  $\geq 160$  by neutralization, or a positive serologic result by IgM-capture enzyme immunoassay]. Cross-reactive serologic reactions to other flaviviruses must be excluded, and the patient must not have a history of yellow fever vaccination.)

### Comment

-  **Specimens from all cases must be submitted to the Bureau of Laboratories for confirmation.**

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