

Pennsylvania Case Definitions

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DEFINITION OF TERMS

Invasive – An infectious disease is considered "invasive" when the infection involves a part of the body that is normally sterile. With respect to laboratory tests, if the disease-causing organism is found in a specimen taken from a body site that is normally sterile (see examples below), the disease is considered to be invasive.

Examples of normally sterile sites include:

Fluids:

- blood
- cerebrospinal fluid (CSF)
- pericardial fluid
- pleural fluid
- peritoneal fluid
- synovial (joint) fluid
- amniotic fluid
- middle ear fluid (if tympanostomy tubes are not in place)

Tissues:

- bone
- brain
- heart
- liver
- lung
- placenta

Comment: Although pneumonia is clinically invasive, induced or expectorated sputum specimens used to diagnose the condition may be contaminated with normal flora during the collection process. Therefore pneumonia diagnosed by sputum culture should not be considered invasive disease. Similarly, specimens collected during bronchoscopy (such as aspirates for broncho-alveolar lavage) are often contaminated with normal flora and are not definitively indicative of invasive disease.

Clinically compatible case – A clinical syndrome generally compatible with the disease, as described in the clinical description

Epidemiologically linked case – A case in which:

- 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)
- 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.

AMEBIASIS

Condition Overview – Amebiasis is caused by the parasitic protozoa *Entamoeba histolytica*. The majority of those infected are asymptomatic or have very mild symptoms. Intestinal disease varies from acute dysentery with fever, chills, and bloody diarrhea to abdominal discomfort with diarrhea containing blood or mucous. Extraintestinal disease is caused by dissemination of the parasite in the bloodstream can produce abscesses in the liver, lung, or brain. Occurrence in industrialized countries is primarily associated with travel to area with poor sanitation.

Pennsylvania Case Definition (for use in appropriately classifying cases in PA-NEDSS):

Clinical criteria

- **Intestinal** – Diarrhea (≥ 3 stools in 24 hr period)
- **Extraintestinal** - physician documented clinical and/or radiological findings consistent with extraintestinal infection.

Laboratory criteria

- **Confirmed:**
 - Evidence of *E. histolytica* trophozoites or cysts in stool, aspirate, tissue, or tissue scraping, OR
 - Detection of *E. histolytica* nucleic acid by polymerase chain reaction (PCR) in stool, aspirate, tissue, or tissue scraping
- **Probable:**
 - Evidence of *E. histolytica* infection by other laboratory methods with a high positive predictive value (PPV), such as or indirect hemagglutination (IHA) or enzyme immunoassay (EIA) tests that do not use screening methods such as immunochromatographic card/rapid card test.

Comment: Cultures are done only in research labs; are not sensitive or specific enough, but can be used in conjunction with antigen detection or PCR tests

Case Classification Categories

Confirmed: A clinically compatible case meeting confirmatory laboratory criteria.

Probable: A clinically compatible case meeting probable laboratory criteria, OR

A clinically compatible case that is epidemiologically linked to another case.

***BORRELIA MIYAMOTOI* INFECTION**

Background - *Borrelia miyamotoi* was first identified in ticks in Japan in 1995 (1), and subsequently in ticks in the United States in 2001 (2). As with many organisms identified in ticks that are not associated with human illness, *B. miyamotoi* was not considered as a human pathogen until a 2011 case series of Russian patients infected with the bacteria (3). The first cases in the United States were reported in 2013 (4). Since then, several cases have been described in the literature; symptoms of illness have ranged from flu-like to more severe manifestations such as meningoencephalitis. Other clinical features reported to date include elevated aminotransferase levels, leukopenia and thrombocytopenia. A retrospective serosurvey conducted in New England and New York State indicated that *B. miyamotoi* seroprevalence rates ranged from 3.2-9.3%, about one-third the rate of *B. burgdorferi* infections in the same area (5). The spectrum of illness continues to be defined as additional cases are identified.

Illness caused by *B. miyamotoi* is not nationally notifiable and therefore no standardized case definition exists. Nevertheless, health departments may be notified of *B. miyamotoi* cases. This working case definition is an attempt to facilitate coordinated data collection to better define the spectrum of illness associated with *B. miyamotoi* infection.

Clinical evidence: Any acute onset of fever or chills and one or more of the following symptoms or signs: headache, sweats/chills, myalgia, arthralgia, malaise/fatigue, rash, abdominal cramps, nausea, vomiting, diarrhea, dizziness, confusion/altered mental status, photophobia, leukopenia, thrombocytopenia, or elevated aminotransferase levels.

Laboratory Criteria for Diagnosis

- Supportive:
 - Direct observance of spirochetes suggestive of *B. miyamotoi* on smear
 - Elevated levels of IgG or IgM antibodies to *B. miyamotoi*
- Confirmed:
 - Isolation of *Borrelia miyamotoi* from a clinical specimen
 - Detection of *Borrelia miyamotoi* DNA in a clinical specimen by PCR
 - Evidence of seroconversion between acute and convalescent specimens, *including but not limited to* fourfold or greater change in serum antibody titer to *B. miyamotoi* antigen between paired specimens

Case Classification Categories

Suspected:

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

Probable:

A clinically-compatible case that has supportive laboratory results (defined above) with a specimen collection date within 6 months of symptom onset.

Confirmed: A clinically-compatible case that is laboratory confirmed with a specimen collection date within 6 months of symptom onset.

References:

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2. Scoles GA, Papero M, Beati L, Fish D. A relapsing fever group spirochete transmitted by *Ixodes scapularis* ticks. *Vector Borne Zoonotic Dis.* 2001;1(1):21.
3. Platonov AE, Karan LS, Kolyasnikova NM, Makhneva NA, Toporkova MG, Maleev VV, et al. Humans infected with relapsing fever spirochete *Borrelia miyamotoi*, Russia. *Emerg Infect Dis.* 2011;17(10):1816.
4. Krause PJ, Narasimhan S, Wormser GP, Rollend L, Fikrig E, Lepore T, et al. Human *Borrelia miyamotoi* infection in the United States. *New Engl J Med.* 2013;368(3):291-3.
5. Krause PJ, Narasimhan S, Wormser GP, Barbour AG, Platonov AE, Brancato J, et al. *Borrelia miyamotoi* sensu lato seroreactivity and seroprevalence in the northeastern United States. *Emerg Infect Dis.* 2014;20(7):1183.

ENCEPHALITIS

Condition Overview – Encephalitis is an inflammatory condition of the brain, manifesting as headache, neck pain, fever, nausea, and vomiting. Neurological disturbances may occur, including seizures, personality change, irritability, lethargy, paralysis, weakness, and coma. The outcome depends on the age and condition of the patient, cause, and extent of inflammation.

Pennsylvania Case Definition (for use in appropriately classifying cases in PA-NEDSS):

Primary Encephalitis

Clinical criteria - An illness in which encephalitis is the major manifestation. Symptoms are due to direct invasion and replication of an infectious agent in the central nervous system, resulting in objective clinical evidence of cerebral or cerebellar dysfunction.

- Symptoms may include any of the following: headache, neck pain, fever, nausea, vomiting, seizures, personality change, irritability, lethargy, paralysis, weakness, and coma

Laboratory criteria – 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 enteroviruses.

Post-infectious (or parainfectious) Encephalitis

Clinical criteria – Encephalitis or microencephalitis that follows or occurs in combination with other viral illnesses that are not central nervous system illnesses, or after a vaccine is administered. Symptoms may be due to hypersensitivity reaction. Primary encephalitis is excluded.

- Symptoms may include any of the following: headache, neck pain, fever, nausea, vomiting, seizures, personality change, irritability, lethargy, paralysis, weakness, and coma

Laboratory criteria – laboratory studies are important in clinical diagnosis but are not required for reporting purposes.

Case Classification Categories

Primary Encephalitis

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

Post-infectious Encephalitis

Confirmed: a clinically compatible illness diagnosed by a physician as postinfectious (or parainfectious) encephalitis

Comment: Possible Final Conditions are: Encephalitis, other/unspecified; Encephalitis, post-infectious, other; Encephalitis, post-mumps; Encephalitis, post-varicella; Encephalitis/meningitis, Cache Valley; Encephalitis/meningitis, California serogroup; Encephalitis/meningitis, Eastern Equine (EEE); Encephalitis/meningitis, Lacrosse; Encephalitis/meningitis, Powassan; Encephalitis/meningitis, St Louis (SLE); Encephalitis/meningitis, Venezuelan equine (VEE); Encephalitis/meningitis, West Nile; or Encephalitis/meningitis, Western equine (WEE).

GUILLAIN-BARRÉ SYNDROME

Condition Overview - An acute, usually rapidly progressive inflammatory polyneuropathy characterized by muscular weakness and mild distal sensory loss. Relatively symmetric weakness with paresthesias usually begins in the legs and progresses to the arms (“ascending”). Weakness is always more prominent than sensory abnormalities and may be most prominent proximally. Deep tendon reflexes are lost. Sphincters are usually spared. Autonomic dysfunction (including BP fluctuations), inappropriate ADH secretion, cardiac arrhythmias, and pupillary changes occur in severe cases. Respiratory paralysis and autonomic dysfunction may be life-threatening. In an unusual “Miller Fisher” variant accounting for 5% of Guillain-Barré Syndrome cases, only ophthalmoparesis, ataxia, and areflexia may develop and the paralysis progresses in reverse order (“descending” from the head down). Other causes of paralysis may be confused with Guillain-Barré Syndrome, such as botulism.

Pennsylvania Case Definition (for use in appropriately classifying cases in PA-NEDSS):

Clinical criteria

- An illness characterized by progressive weakness either ascending, or descending in conjunction with ophthalmoparesis, and with no likely alternative explanation

Laboratory criteria

- CSF with increased protein and normal WBC counts
- Test showing electrophysiologic abnormalities support the diagnosis, but are usually unnecessary

Case Classification Categories

Confirmed: A clinically compatible case that is physician-diagnosed

HEPATITIS (OTHER)

Note: Includes “hepatitis D (delta hepatitis)”, “hepatitis E (not Hep B little e antigen”, and “hepatitis, other or unspecified” only. Hepatitis A, B and C have separate case definitions, which are available at: [Nationally Notifiable Diseases Surveillance System](#)

Condition Overview - Hepatitis D is a liver disease caused by the hepatitis D virus (HDV). HDV, a defective RNA virus, coated with hepatitis B surface antigen (HBsAg) and requires the presence of hepatitis B virus (HBV) to invoke infection. Like hepatitis B, hepatitis D is transmitted by mucosal or percutaneous exposure to infected body fluids and causes symptoms such as jaundice, nausea, vomiting, abdominal pain and anorexia. Hepatitis D may present as an acute co-infection with hepatitis B or as fulminant hepatitis in a person with chronic HBV infection. Hepatitis E is a liver disease caused by the hepatitis E virus (HEV), which is an RNA virus. HEV is similar to hepatitis A virus (HAV) infection, as it is transmitted by the fecal-oral route, produces similar symptoms (jaundice, nausea, vomiting, abdominal pain and anorexia) and does not result in chronic infection. Acute infection during pregnancy is associated with high mortality rate. Other viruses (e.g. cytomegalovirus and Epstein-Barr virus) can cause acute hepatitis or abnormally elevated liver enzymes. Hepatitis D and hepatitis E infections are uncommon in the United States and no FDA-licensed vaccine is currently available to prevent either infection. From 2003–2010 in Pennsylvania, an average of 3 cases of hepatitis D and 5 cases of hepatitis E were reported per year.

Pennsylvania Case Definition (for use in appropriately classifying cases in PA-NEDSS):

Clinical criteria: Hepatitis D, hepatitis E or hepatitis, other or unspecified:

- An acute viral illness with
 - discrete onset of symptoms (e.g., abdominal pain, nausea, vomiting, etc.) and
 - jaundice or elevated liver enzymes

Laboratory criteria

- Hepatitis D
 - Serum aminotransferase (ALT) levels >200 IU/L AND
 - HBsAg or IgM anti-HBc positive AND
 - IgM anti-HDV or HDV RNA positive
- Hepatitis E
 - Serum aminotransferase (ALT) levels >200 IU/L AND
 - IgM anti-HAV negative (if done) AND
 - IgM anti-HEV or HEV RNA positive
- Hepatitis, other or unspecified
 - anti-HCV negative AND
 - HBsAg or IgM anti-HBc negative AND
 - IgM anti-HAV negative AND
 - IgM anti-HDV or HDV RNA negative (if done) OR
 - IgM anti-HEV or HEV RNA negative (if done)

Case Classification Categories (for all conditions):

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

Probable:

- A case with discrete onset of symptoms (but lacking jaundice or elevated liver enzymes) and is laboratory confirmed. OR
- A case that meets the clinical case definition and is epidemiologically linked to another laboratory-confirmed case

INFLUENZA

Condition Overview - Influenza is characterized by the sudden onset of fever, frequently with chills or rigors, headache, malaise, diffuse myalgia, and a nonproductive cough. Subsequently, the respiratory tract signs of sore throat, nasal congestion, rhinitis, and cough become more prominent. Conjunctival injection, abdominal pain, nausea, and vomiting can occur.

Pennsylvania Case Definition (for use in appropriately classifying cases in PA-NEDSS):

Case Classification Categories

Confirmed: clinically compatible symptoms AND

- Isolation of influenza virus on viral culture (including “shell” or rapid culture) OR
- Detection of influenza virus nucleic acid by polymerase chain reaction OR
- Significant change in antibody titer to influenza virus between acute and convalescent serum samples, as determined by complement fixation, hemagglutination inhibition, neutralization, or enzyme immunoassay tests

Probable: clinically compatible symptoms AND

- Epi-linked to a confirmed case, OR
- Detection of influenza virus antigen, including by point-of-care rapid antigen test or in-laboratory direct immunofluorescence assay (DFA), without other laboratory confirmation

Suspect: Positive laboratory test (excluding a single influenza antibody test) with no clinical information available.

***Comment:** In the context of an outbreak in an institutional setting (e.g. nursing home, school, etc.), a case with clinically compatible symptoms and detection of influenza virus antigen by DFA, EIA, or ELISA (including rapid tests) is considered confirmed.

MENINGITIS, ASEPTIC

Condition Overview - 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. Meningitis may be bacterial, fungal or viral. Viral meningitis is also commonly referred to as aseptic meningitis. In contrast to bacterial meningitis, viral meningitis is more common and generally less severe. Multiple viruses can cause meningitis; however, in up to half of all cases no specific viral cause is determined. Of cases with known etiology, enterovirus is the most common virus detected. **Please note that meningitis caused by certain viruses that represent explicitly reportable conditions should be reported under the respective etiology (e.g., measles, mumps, varicella, arboviruses, etc.).**

In Pennsylvania, aseptic meningitis is commonly reported. From 2000 to 2009, a median of 600 cases were reported per year.

Pennsylvania Case Definition (for use in appropriately classifying cases in PA-NEDSS):

Clinical criteria

- A syndrome characterized by acute onset of meningeal symptoms (stiff neck, fever, change in mental status, and headache) and cerebrospinal fluid pleocytosis (excessive lymphocytes), with no evidence of bacterial or fungal meningitis (such as gram-negative diplococci or other organisms seen on gram stain of CSF, or organisms isolated from CSF).

Laboratory criteria

- Confirmatory:
 - A viral isolate from CSF identifying a virus not explicitly reportable or
 - A viral isolate from blood (not explicitly reportable) with physician diagnosis of aseptic meningitis
- Supportive:
 - No growth of bacteria or fungi in CSF or blood cultures
 - CSF with test results characteristic of viral meningitis (lymphocyte predominance, low protein, normal glucose)

Case Classification Categories

Confirmed:

A clinically compatible illness diagnosed by a physician as acute viral syndrome or aseptic meningitis or viral meningitis, with a positive test for virus in CSF or blood

Probable:

A clinically compatible illness of meningeal symptoms (e.g. fever, headache, nuchal rigidity, bulging fontanel, change in mental status) as described by physician, with no laboratory evidence of bacterial or fungal meningitis and/or supportive laboratory results.

Comment: Partially treated bacterial meningitis may give the appearance of aseptic meningitis. If “partially treated” is mentioned by the clinical record, consult with IDE.

MENINGITIS, OTHER

Condition Overview - Meningitis can be caused by a variety of bacterial, fungal or viral organisms. Viral (aseptic) meningitis is reported as “Meningitis, Aseptic.” The category of “Meningitis, Other” is used for reporting fungal meningitis, parasitic meningitis or meningitis caused by other bacteria that are not reported under a more specific reportable condition. Please note that meningitis caused by bacteria that represent explicitly reportable conditions should be reported under the respective etiology (e.g., *Neisseria meningitidis*, *Streptococcus pneumoniae*, *Haemophilus influenzae*, *Listeria monocytogenes*, etc.).

In Pennsylvania, meningitis due to other bacterial or fungal cause is commonly reported. From 2000 to 2009, a median of 150 cases were reported per year.

Pennsylvania Case Definition (for use in appropriately classifying cases in PA-NEDSS):

Clinical criteria

- 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

- Confirmatory
 - Isolation of a bacterial, parasitic or fungal species from CSF; **OR**
 - Positive blood culture for a bacterial, parasitic or fungal species
- Supportive
 - Detection of bacterial, parasitic or fungal antigen in CSF; **OR**
 - Detection of bacterial, parasitic or fungal nucleic acid in CSF
 - Visualization of bacteria, parasites or fungi in CSF.

Case Classification Categories

Confirmed:

A clinically compatible illness that is laboratory confirmed

Probable:

A clinically compatible illness that has only supportive laboratory criteria **OR** a clinically compatible case that is not laboratory confirmed due to antibiotic therapy prior to specimen collection.

NOROVIRUS (NORWALK, NORWALK-LIKE VIRUS) INFECTION

Condition Overview - Norovirus infection usually presents as acute-onset vomiting, watery non-bloody diarrhea with abdominal cramps, and nausea. Low-grade fever also occasionally occurs, and diarrhea is more common than vomiting in children. Constitutional symptoms (e.g., headache, fever, chills and myalgia) are frequently reported.

Pennsylvania Case Definition (for use in appropriately classifying cases in PA-NEDSS):

Clinical criteria (may include some or all of the following)

- Diarrhea – defined as ≥ 3 loose stools in 24-hour period
- Vomiting
- Abdominal cramps
- Nausea

Laboratory criteria

- Detection of norovirus nucleic acid by polymerase chain reaction OR
- Detection of norovirus antigen by EIA or ELISA

Case Classification Categories

Confirmed: clinically compatible symptoms AND detection of norovirus nucleic acid by polymerase chain reaction

Probable: clinically compatible symptoms AND

- Detection of norovirus antigen by EIA or ELISA, OR
- Epi-linked to a confirmed case

RESPIRATORY SYNCYTIAL VIRUS

Condition Overview - Respiratory Syncytial Virus (RSV) causes acute respiratory tract illness in patients of all ages. In infants and young children, RSV is the most important cause of bronchiolitis and pneumonia. During the first few weeks of life, lethargy, irritability, and poor feeding, sometimes accompanied by apneic episodes, may be the major manifestations. Infection with RSV in older children and adults usually manifests as an upper respiratory tract illness, occasionally with bronchitis. Exacerbation of asthma or other chronic lung conditions also is common. RSV can be a cause of severe disease and death in older adults; nursing home RSV outbreaks can be explosive.

Pennsylvania Case Definition (for use in appropriately classifying cases in PA-NEDSS):

Clinical criteria

- Acute respiratory symptoms that may include any of the following: nasal congestion, cough, fever, tachypnea, dyspnea, bronchiolitis, or pneumonia.

Laboratory criteria

- Isolation of respiratory syncytial virus on viral culture
- Detection of respiratory syncytial virus nucleic acid by polymerase chain reaction
- Detection of respiratory syncytial virus antigen *

Case Classification Categories

Confirmed: clinically compatible symptoms AND

- Isolation of respiratory syncytial virus on viral culture OR
- Detection of respiratory syncytial virus nucleic acid by polymerase chain reaction

Probable: a clinically compatible symptoms AND epi-linked to a confirmed case

Suspect: positive antigen test without other laboratory confirmation

***Comment:** In the context of an outbreak in a defined community, detection of respiratory syncytial virus antigen by DFA, EIA, or ELISA is considered a confirmatory laboratory test. Serologic diagnosis of RSV infection is primarily useful for epidemiologic studies rather than for patient management.

RICKETTSIAL DISEASE/TYPHUS (UNSPECIFIED)

Condition Overview - In addition to spotted fever rickettsiosis (previously referred to solely as Rocky Mountain spotted fever), rickettsial organisms can cause a number of other acute infections including typhus fevers (*Rickettsia prowazekii*, *R. typhi*), rickettsialpox (*R. akari*), and others. These conditions are caused by specific rickettsial agents, each of which has a unique epidemiology and zoonotic transmission cycle. Illness severity and clinical features can vary, but fever and flu-like symptoms are common; rash is observed in approximately half of *R. prowazekii* infections. Rickettsialpox infections often feature a disseminated vesicular rash that may be confused with varicella and an initial eschar that may be mistaken as cutaneous anthrax.

COMMENT: All the “spotted fevers” should be classified as Rocky Mountain spotted fever. Typhus is not considered a “spotted fever” but should still be classified as Rickettsial disease.

In Pennsylvania, Rickettsial disease/Typhus, other or unspecified is not commonly reported. From 2000 to 2009, a median of 10 cases were reported per year.

Pennsylvania Case Definition:

Clinical criteria

- An acute illness characterized by fever, headache, rash or a combination of these.

Laboratory criteria

- Confirmatory
 - Four-fold or greater change in IFA or CF antibody titer for the specific causative rickettsial agent. Acute and convalescent sera should be run at the same laboratory at the same time; **OR**
 - Detection of the specific rickettsial agent in a clinical specimen via immunohistochemical staining; **OR**
 - Isolation of a rickettsial agent from a clinical specimen; **OR**
 - Detection of specific rickettsial nucleic acid in a clinical specimen
- Supportive
 - Elevated specific rickettsial IgG or IgM antibody in a single serum specimen with no additional laboratory results available

Case Classification Categories

Confirmed:

A clinically compatible illness that is laboratory confirmed.

Probable:

A clinically compatible illness that has only supportive laboratory criteria.

PA-NEDSS Final Condition options include: Anaplasmosis, Human monocytic Ehrlichiosis, Ehrlichiosis, other or unspecified, Rocky Mountain spotted fever.

SHINGLES

Condition Overview - Herpes zoster typically presents as a painful rash in one or two adjacent dermatomes, most commonly in a thoracic dermatome. Pain, itching, or tingling in the area where the rash develops is typical and may precede rash onset by days to weeks. Headache, photophobia, and malaise may also occur in the prodromal phase. Disseminated zoster may occur in immunocompromised individuals.

Pennsylvania Case Definition (for use in appropriately classifying cases in PA-NEDSS):

Clinical criteria

- Unilateral vesicular lesions in a dermatomal pattern OR
- Disseminated zoster

Laboratory criteria

- Isolation of varicella virus from a clinical specimen, OR
- Varicella-specific nucleic acid detected by polymerase chain reaction (PCR), OR
- Varicella antigen detected by direct fluorescent antibody test

Case Classification Categories

Confirmed: a clinically compatible case with laboratory confirmation

Probable: a clinically compatible case without laboratory confirmation

STREPTOCOCCAL DISEASE, GROUP A INVASIVE

Condition Overview - Group A streptococci (*Streptococcus pyogenes*) are responsible for several common non-invasive illnesses, including respiratory infections such as streptococcal pharyngitis (strep throat) and skin infections such as impetigo. Some Group A streptococci (GAS) infections can become invasive and result in serious illness. Rarely, GAS might cause necrotizing fasciitis or streptococcal toxic shock syndrome (*Note: Streptococcal toxic shock syndrome is nationally notifiable; the CDC case definition for it is at <http://wwwn.cdc.gov/NNDSS/script/casedef.aspx?CondYrID=858&DatePub=1/1/2010>*).

In Pennsylvania, invasive group A streptococcal infections are reported regularly. From 2000 to 2009, a median of 265 cases were reported per year.

Pennsylvania Case Definition (for use in appropriately classifying cases in PA-NEDSS):

Clinical criteria

- Invasive group A streptococcal infections may manifest as any of several clinical syndromes, including pneumonia, bacteremia in association with cutaneous infection (e.g., cellulitis, erysipelas, or infection of a surgical or nonsurgical wound), deep soft-tissue infection (e.g., myositis or necrotizing fasciitis), meningitis, peritonitis, osteomyelitis, septic arthritis, postpartum sepsis (i.e., puerperal fever), neonatal sepsis, and non-focal bacteremia.

Laboratory criteria

- 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 Categories

Confirmed: A case that is laboratory confirmed.

TOXOPLASMOSIS

Condition Overview - Toxoplasmosis is a systemic infection caused by the protozoan parasite *Toxoplasma gondii*. The organism, which is common worldwide, is highly stable in the environment. Human infection results through the inadvertent ingestion of infective oocysts that may be present in soil, sand or water that has been contaminated by cat feces. Infection may also be acquired through the consumption of undercooked meat, unpasteurized milk or unwashed fruits and vegetables, or receiving an organ transplant from an infected person. Additionally, congenital toxoplasmosis can occur if primary maternal infection occurs during pregnancy; infection tends to be most severe if infection occurs during the first or second trimester. The vast majority of infections are asymptomatic. Symptomatic infections can be categorized as followed:

- **Toxoplasmosis in immunocompetent persons:** Of those with symptoms a mild illness is common, often with lymphadenopathy alone. Others may experience an illness resembling mononucleosis. Ocular infections are also possible and may be recurrent (toxoplasmosis is a leading cause of uveitis).
- **Toxoplasmosis in immunodeficient persons:** Infections may represent reactivation of previous infections. Symptoms are more severe and potentially life-threatening, including brain and nervous system infections resulting in encephalitic symptoms. Pulmonary and/or cardiac system involvement, as well as ocular infection, is also possible.
- **Toxoplasmosis in newborn infants:** Among infants born to mothers infected during early pregnancy, symptoms may include fever, jaundice, lymphadenopathy, megaloccephaly, microcephaly, rash, anemia, and other complications. Those infected during the last trimester do not usually have symptoms at birth; however, ocular complications or developmental delays may become evident later in life.

Toxoplasmosis is reported sporadically in Pennsylvania. From 2000–2009 in Pennsylvania, a median of 60 cases of toxoplasmosis were reported per year.

Pennsylvania Case Definition (for use in appropriately classifying cases in PA-NEDSS):

Clinical criteria

- Any illness consistent with the clinical descriptions provided above; **OR**
- Physician diagnosis of toxoplasmosis

*Laboratory criteria**

- Confirmatory
 - Demonstration of tachyzoites in tissue by histopathology (immunoperoxidase or direct fluorescent antibody staining); **OR**
 - Isolation of *T. gondii* from blood or body fluid; **OR**
 - Detection of *T. gondii* nucleic acid in body fluid or tissue by PCR
- Supportive
 - Four-fold rise in *Toxoplasma* IgG antibody titer in sequential serum specimens

**Note: serologic tests for specific antibody (IgG, IgM, IgA, and IgE) are commonly used for the diagnosis of toxoplasmosis. However, due to the complexities of diagnostic timing in relation to the individual patient, no single serologic test currently available can be used to diagnose acute infection. Additionally, there is increasing awareness that Toxoplasma IgM titers may persist for years after an acute infection and that commercially available Toxoplasma IgM tests have variable performance.*

Case Classification Categories

Confirmed:

A case that meets the clinical case definition and is laboratory confirmed

Probable:

A case that meets the clinical case definition and has only supportive laboratory test results

Suspected:

A case that meets the clinical case definition and has other laboratory test results (or no laboratory testing was performed)

YERSINIOSIS (NON-PESTIS)

Condition Overview – Yersiniosis, most commonly caused by *Yersinia enterocolitica*, is a febrile diarrheal disease; abdominal pain that mimics appendicitis is not uncommon. Complications including skin rash, joint pains, or septicemia can occur. Common risk factors include: consumption of undercooked contaminated pork products or contaminated milk or water, or through contact with swine.

National Standardized Case Definition (for use in appropriately classifying cases in PA-NEDSS):

Clinical criteria

- An illness with either diarrhea or abdominal pain that may be severe enough to mimic appendicitis.

Note: Extra-intestinal manifestations may also be present, such as abscess, which could be a source for testing, and reactive arthritis and erythema nodosum, which are often immunologic phenomena not directly caused by the infection. These manifestations are not required as part of the clinical criteria.

Laboratory criteria

- Confirmatory laboratory evidence: Isolation of *Yersinia enterocolitica* or *Yersinia pseudotuberculosis* by culture from a clinical specimen.
- Presumptive laboratory evidence: Detection of any *Yersinia* non-pestis species using a nucleic acid test culture-independent diagnostic testing (NAT CIDT).

Case Classification Categories

Confirmed:

A case that meets confirmatory laboratory evidence. [Note: this is regardless of clinical criteria.]

Probable:

- A case that meets presumptive laboratory evidence [regardless of clinical compatibility], -or-
- A clinically compatible case that is epidemiologically linked to a case meeting confirmatory or presumptive laboratory criteria.

Criteria to Distinguish a New Case: A repeat culture or NAT CIDT result within 365 days of initial report should not be considered a new case for surveillance.

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