

# Appendix B: Provincial Case Definitions for Reportable Diseases

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# Appendix B: Provincial Case Definitions for Reportable Diseases

Disease: Acquired Immunodeficiency Syndrome (AIDS)

## Acquired Immunodeficiency Syndrome (AIDS)

### 1.0 Provincial Reporting

Confirmed cases of disease

### 2.0 Type of Surveillance

Case-by-case

### 3.0 Case Classification

#### 3.1 Confirmed Case of Human Immunodeficiency Virus (HIV) Infection

Children < 18 months:

- Detection of HIV nucleic acid (by deoxyribonucleic acid [DNA] polymerase chain reaction [PCR]) or p24 antigen (p24 Ag) in two separate samples collected one month and four months after delivery

Adults, Adolescents and Children >18 months:

- Detection of HIV antibody with confirmation  
**OR**
- Detection of HIV nucleic acid or p24 antigen

#### 3.2 Confirmed Case of Acquired Immunodeficiency Syndrome (AIDS)

- A positive test for HIV infection with confirmation  
**AND**
- Definitive diagnosis of one or more AIDS indicative diseases (See Section 5.2)

### 4.0 Laboratory Evidence

#### 4.1 Laboratory Confirmation

Any of the following will constitute a confirmed case of HIV:

**Children < 18 months (on 2 separate samples):**

- Positive for HIV nucleic acid
- Positive for HIV p24 Ag (>1 months)
- Positive HIV culture

**Adults, Adolescents and Children >18 months:**

- Positive for HIV-1, HIV-2 antibody with confirmation for HIV antibody (e.g. Western blot or immunofluorescent technique)
- Positive for HIV nucleic acid
- Positive for HIV p24 Ag
- Positive HIV culture

#### 4.2 Approved/Validated Tests

- Tests for anti-HIV-1, anti-HIV-2 antibodies (enzyme immunoassay [EIA], Western blot, line immunoassay [LIA], radioimmunoassay [RIA], rapid tests)
- Nucleic acid amplification test (NAT) for HIV ribonucleic acid (RNA)/ deoxyribonucleic acid (DNA)
- HIV p24 Ag test

- Standard HIV culture

#### 4.3 Indications and Limitations

- In children <18 months of age born to HIV positive mothers, all positive results should be repeated with a second specimen for confirmation. All negative tests should be repeated at 6-12 months to verify negative status

### 5.0 Clinical Evidence

#### 5.1 HIV

**Acute infection**-Fever, arthralgia, myalgia, rash, lymphadenopathy, sore throat, fatigue, headache, oral ulcers and/or genital ulcers, weight loss, nausea, vomiting or diarrhea.

**Chronic Symptomatic**-oral hairy leukoplakia, unexplained fever, fatigue or lethargy, unexplained weight loss, chronic diarrhea, unexplained lymphadenopathy, cervical dysplasia, dyspnea and dry cough, loss of vision, recurrent or chronic candida (oral, esophageal, vaginal), dysphagia, red/purple nodular or mucosal lesions, encephalopathy, herpes zoster, unexplained anemia of chronic disease, increased frequency or severity of herpes simplex infection.

#### 5.2 AIDS Indicative Diseases for Adults and Adolescents > 15 years of Age

- Bacterial pneumonia (recurrent)\*
- Candidiasis (bronchi, trachea or lungs)
- Candidiasis (esophageal)<sup>†</sup>
- Cervical cancer (invasive)\*
- Coccidioidomycosis (disseminated or extrapulmonary)\*
- Cryptococcosis (extrapulmonary)
- Cryptosporidiosis chronic intestinal (> 1 month duration)
- Cytomegalovirus diseases (other than in liver, spleen or nodes)
- Cytomegalovirus retinitis (with loss of vision)\*, <sup>†</sup>
- Encephalopathy, HIV-related (dementia)\*
- Herpes simplex: chronic ulcer(s) (> 1 month duration) or bronchitis, pneumonitis or esophagitis
- Histoplasmosis (disseminated or extrapulmonary)\*
- Isosporiasis, chronic intestinal (> 1 month duration)\*
- Kaposi's sarcoma<sup>†</sup>
- Lymphoma, Burkitt's (or equivalent term)\*
- Lymphoma, immunoblastic (or equivalent term)\*
- Lymphoma (primary in brain)
- *Mycobacterium avium* complex or *M. kansasii* (disseminated or extrapulmonary)\*
- *Mycobacterium* of other species or unidentified species\*,<sup>†</sup>
- *M. tuberculosis* (disseminated or extrapulmonary)\*
- *M. tuberculosis* (pulmonary)\*
- *Pneumocystis carinii* pneumonia<sup>†,‡</sup>
- Progressive multifocal leukoencephalopathy
- Salmonella septicemia (recurrent)\*
- Toxoplasmosis of brain<sup>†</sup>
- Wasting syndrome due to HIV\*

For pediatric cases only (< 15 years old)

- Bacterial infections (multiple or recurrent, excluding recurrent bacterial pneumonia)\*
- Lymphoid interstitial pneumonia and/or pulmonary lymphoid hyperplasia†

\* Must have laboratory evidence of HIV infection

† May be diagnosed presumptively if laboratory evidence of HIV infection is present

‡ This has been renamed as *Pneumocystis jirovecii*

## 6.0 ICD Code(s)

ICD 10 Code B24

## 7.0 Comments

N/A

## 8.0 References

- Heymann D, editor. Control of communicable diseases manual. 18th ed. Washington: American Public Health Association; 2004.
- Ministry of Health and Long-Term Care, Public Health Division. iPHIS manual. Toronto, ON: Queen's Printer for Ontario; 2005.
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# Appendix B: Provincial Case Definitions for Reportable Diseases

Disease: Adverse Events Following Immunization (AEFIs)

## Adverse Events Following Immunization (AEFIs)

### 1.0 Provincial Reporting

Confirmed cases of disease

### 2.0 Type of Surveillance

Case-by-case

### 3.0 Case Classification

The following present the confirmed case classifications for an adverse event following immunization:

#### 3.1 Local Reaction Following an Injection:

- Swelling at or near injection site  
**OR**
- Abscess at injection site  
**OR**
- Nodule at injection site  
**OR**
- Cellulitis  
**OR**
- Induration at or near injection site

#### 3.2a Anaphylaxis

- $\geq 1$  minor cardiovascular **OR** respiratory criterion  
**AND**
- $\geq 1$  minor criterion from each of  $\geq 2$  different systems/categories

**OR**

- $\geq 1$  major cardiovascular **AND**  $\geq 1$  major respiratory criterion  
**OR**
- $\geq 1$  major cardiovascular **OR** respiratory criterion  
**AND**
- $\geq 1$  minor criterion involving  $\geq 1$  different system/category (other than cardiovascular or respiratory system)  
**OR**
- $\geq 1$  major dermatological **AND**  $\geq 1$  minor cardiovascular **AND/OR** respiratory criterion

**OR**

- $\geq 1$  major dermatological  
**AND**
- $\geq 1$  major cardiovascular **AND/OR**  $\geq 1$  major respiratory criterion

#### 3.2b Allergic Reaction

- $\geq 1$  minor dermatological (hives)

**OR**

- ≥1 minor respiratory criterion (wheezing)

**OR**

- ≥1 major dermatological (local or generalized edema)

### **3.3 Neurologic Reaction**

- Encephalopathy/ Encephalitis

**OR**

- Meningitis

**OR**

- Seizure(s)

**OR**

- Guillian-Barré Syndrome

**OR**

- Bell's Palsy

**OR**

- Paralysis other than Bell's Palsy

### **3.4 Other Defined AEFIs of Interest**

- Hypotonic-Hyporesponsive Episode

**OR**

- Persistent crying

**OR**

- Rashes

**OR**

- Arthritis

**OR**

- Thrombocytopenia

**OR**

- Parotitis

**OR**

- Oculo Respiratory Syndrome (ORS)

### **3.5 Other Severe or Unusual Event(s) Not Listed Above (e.g., Intussusception)**

Any adverse event believed to be temporally related to immunization that does not fit any of the categories listed above and for which no other cause is clearly established. Report events of clinical interest which require medical attention, and particularly events that are (i) fatal, (ii) life-threatening, (iii) require hospitalization, or (iv) result in residual disability.

## **4.0 Laboratory Evidence**

### **4.1 Laboratory Confirmation**

#### **Local Reaction Following an Injection**

- Gram stain or positive culture of microbiological organisms

### **4.2 Approved/Validated Tests**

#### **Local Reaction Following an Injection**

- Standard culture
- Gram stain

#### 4.3 Indications and Limitations

N/A

### 5.0 Clinical Evidence

#### 5.1 Local Reaction Following an Injection:

**i. Swelling at or near injection site:**

- Visible enlargement of injected limb with or without objective measurement. Swelling is caused by fluid infiltration in tissue and is typically soft.

**ii. Abscess at injection site:**

- Localized soft tissue collection of material occurring at the site of injection.
  - Abscess of infectious etiology – spontaneous or surgical drainage of material from mass and lab confirmation i.e. gram stain or positive culture, of microbiological organisms
  - Sterile abscess - spontaneous or surgical drainage of material from mass negative for infectious etiology

**iii. Nodule at injection site:**

- The presence of a discrete or well demarcated soft tissue mass or lump that is firm in the absence of abscess formation, erythema, or warmth.
- There may be additional less discrete softer swelling surrounding the nodule at the injection site.

**iv. Cellulitis:**

Acute infectious and expanding inflammatory condition of the skin with at least three of the following four signs:

- Localized pain or tenderness
- Erythema
- Induration or swelling
- Warmth

**AND**

- The reaction is at the injection site

**v. Induration at or near injection site:**

- Palpable thickening, firmness or hardening of soft tissue. It may clearly include the injection site or may not clearly include the injection site.

## 5.2 Anaphylaxis and Other Allergic Reactions:

**Table 1: Minor Criteria**

<p>Dermatologic or mucosal -</p> <ul style="list-style-type: none"><li>○ Generalized pruritus without skin rash</li><li>○ Generalized prickle sensation</li><li>○ Localized injection site urticaria</li><li>○ Red and itchy eyes</li></ul> <p>Cardiovascular -</p> <ul style="list-style-type: none"><li>○ Reduced peripheral circulation as indicated by the combination of at least 2 of tachycardia and</li><li>○ A capillary refill time of &gt;3 seconds without hypotension</li><li>○ A decreased level of consciousness</li></ul> <p>Respiratory –</p> <ul style="list-style-type: none"><li>○ Persistent dry cough</li><li>○ Hoarse voice</li><li>○ Difficulty breathing without wheeze or stridor</li><li>○ Sensation of throat closure</li><li>○ Sneezing, rhinorrhea</li></ul> <p>Gastrointestinal –</p> <ul style="list-style-type: none"><li>○ Diarrhea</li><li>○ Abdominal pain</li><li>○ Nausea</li><li>○ Vomiting</li></ul> <p>Laboratory –</p> <ul style="list-style-type: none"><li>○ Mast cell tryptase elevation &gt; upper normal limit</li></ul>
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**Table 2: Major Criteria**

<p>Dermatologic or mucosal -</p> <ul style="list-style-type: none"><li>○ Generalized urticaria (hives) or generalized erythema</li><li>○ Angioedema*, localized or generalized</li><li>○ Generalized pruritis with skin rash</li></ul> <p>Cardiovascular -</p> <ul style="list-style-type: none"><li>○ Measured hypotension</li><li>○ Clinical diagnosis of uncompensated shock, indicated by the combination of at least 3 of the following:<ul style="list-style-type: none"><li>○ Tachycardia</li><li>○ Capillary refill time &gt;3 seconds</li><li>○ Reduced central pulse volume</li><li>○ Decreased level of consciousness or loss of consciousness</li></ul></li></ul> <p>Respiratory –</p> <ul style="list-style-type: none"><li>○ Bilateral wheeze</li><li>○ Stridor</li><li>○ Upper airway swelling (lip, tongue, throat, uvula, or larynx)</li><li>○ Respiratory distress – 2 or more of the following:<ul style="list-style-type: none"><li>○ Tachypnea</li><li>○ Increased use of accessory respiratory muscles (sternocleidomastoid, intercostals, etc.)</li><li>○ Recession</li><li>○ Cyanosis</li><li>○ Grunting</li></ul></li></ul>
--

### **5.3 Neurologic Reaction**

- i. Encephalopathy/ Encephalitis may be manifested by any of the following:**
  - Depressed/altered level of consciousness, lethargy or personality change lasting for  $\geq 24$ hrs
  - Lethargy
  - Focal or multifocal neurologic sign(s)
  - CSF pleocytosis  $>5$  wbc/mm<sup>3</sup>
  - EEG consistent with encephalitis
  - Brain pathology consistent with encephalitis
  - Neuroimaging consistent with encephalitis
  
- ii. Meningitis**

An infection or inflammation of the membranes covering the brain and spinal cord, characterized by acute onset of fever with neck stiffness and pain, severe headache and vomiting.

- iii. **Seizure(s)**
  - Sudden loss of consciousness with or without fever
  - Paroxysms of generalized tonic skeletal muscle contractions and clonic jerking usually associated with decreased consciousness.
- iv. **Guillian-Barré Syndrome**  
Acute febrile polyneuritis or acute idiopathic polyneuritis.  
Usually a symmetrical ascending paralysis with associated sensory disturbances.
- v. **Bell's Palsy**  
Bell's palsy involves damage to the seventh cranial (facial) nerve. This nerve controls the movement of the muscles of the face. Symptoms usually start suddenly, and range from mild to severe and may include any of the following:
  - Change in facial expression (for example, grimacing)
  - Difficulty with eating and drinking
  - Drooling due to lack of control over muscles of the face
  - Droopy eyelid or corner of mouth
  - Dry eye or mouth
  - Face feels stiff or pulled to one side
  - Facial paralysis of one side of the face, makes it hard to close one eye
  - Headache
  - Loss of sense of taste
  - Pain behind or in front of the ear
  - Sensitivity to sound (hyperacusis) on the affected side of the face
  - Twitching in face
  - Weakness in face
- vi. **Paralysis other than Bell's Palsy**  
Abnormal loss of muscle function or of sensation.

#### 5.4 Other Defined AEFIs of Interest

- i. **Hypotonic-Hyporesponsive Episode**
  - <2yrs old
  - Limpness
  - Reduced responsiveness / unresponsiveness
  - Pallor/Cyanosis
- ii. **Persistent crying**
  - The presence of crying which is continuous  
**AND**
  - Unaltered for  $\geq 3$  hours.
- iii. **Rashes**
  - Generalized
  - Localized at injection site
  - Localized at non-injection site
- iv. **Arthritis**  
Joint pain lasting at least 24 hours, includes the following.
  - Joint swelling
  - Joint redness
  - Sensation of warmth over the joint

- Inflammatory changes in synovial fluid
- v. **Thrombocytopenia:**
- Platelet count less than  $150 \times 10^9 \text{ L}^{-1}$   
**AND**
  - Confirmed by blood smear exam  
**OR**
  - The presence of clinical signs and symptoms of excessive and spontaneous bleeding (e.g., petechiae, purpura, epistaxis, hematoma, prolonged bleeding after cuts or surgery)
- vi. **Parotitis**  
Parotid gland swelling with pain and/or tenderness.
- vii. **Oculo Respiratory Syndrome (ORS)**  
Symptoms must include bilateral red eyes AND at least one respiratory sign/symptom with or without facial edema, occurring within 24 hours of influenza vaccination.
- Respiratory sign/symptoms can include any of the following:
- cough,
  - sore throat,
  - difficulty swallowing,
  - wheeze,
  - difficulty breathing,
  - hoarseness and
  - chest tightness.

### 5.5 Other Severe or Unusual Event(s) Not Listed Above (e.g., Intussusception)

- *Surgical criteria*  
The demonstration of invagination of the intestine at surgery; and/or
- *Radiologic criteria:*  
The demonstration of invagination of the intestines by either air or liquid contrast enema; or the demonstration of an intra-abdominal mass by abdominal ultrasound with specific characteristic features that is proven to be reduced by hydrostatic enema on postreduction ultrasound; and/or
- *Autopsy criteria:*  
The demonstration of invagination of the intestine.

### 6.0 ICD Code(s)

ICD 10 Code T88.1

### 7.0 Comments

#### Neurologic Reaction:

#### Guillain-Barré Syndrome

- Indicate whether EMG and/or LP done and results, as well as any other relevant investigation including tests to look for possible causes, especially *Campylobacter*.

## Bell's Palsy

- About 60 - 80% of cases go away completely within a few weeks to months. Sometimes the condition results in permanent changes.

## 8.0 References

- Ministry of Health and Long-Term Care, Public Health Division. iPHIS manual. Toronto, ON: Queen's Printer for Ontario; 2005.
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# Appendix B: Provincial Case Definitions for Reportable Diseases

Disease: Amebiasis

## Amebiasis

### 1.0 Provincial Reporting

Confirmed and probable cases of disease

### 2.0 Type of Surveillance

Case-by-case

### 3.0 Case Classification

#### 3.1 Confirmed Case

Laboratory confirmation of infection with or without clinically compatible signs and symptoms:

- Demonstration of hypertrophied *Entamoeba histolytica* (*E. histolytica*) trophozoites in preserved stool samples  
**OR**
- Positive for *E. histolytica* by stool antigen ELISA on unpreserved stool samples  
**OR**
- Positive serological test(s) for *E. histolytica*, titre  $\geq 1:512$   
**OR**
- Demonstration of trophozoites in intestinal tissue biopsy or ulcer scrapings (e.g., Iron-Haematoxylin [IH] stained smears)  
**OR**
- Demonstration of trophozoites in extra-intestinal tissues (e.g., Haematoxylin & Eosin [H & E] stained sections)

#### 3.2 Probable Case

- Clinically compatible signs and symptoms in a person with an epidemiologic link to one or more laboratory-confirmed cases  
**OR**
- A person with or without clinically compatible signs and symptoms and the presence of *E. histolytica/dispar* cysts and trophozoites by microscopy

### 4.0 Laboratory Evidence

#### 4.1 Laboratory Confirmation

Any of the following will constitute a confirmed case of Amebiasis:

##### *Intestinal amebiasis*

- Demonstration of ingested red blood cells in hypertrophied trophozoites of *E. histolytica* in preserved stool samples  
**OR**
- Demonstration of positive ELISA for *E. histolytica* on unpreserved stool samples  
**OR**
- Demonstration of positive serological test(s) for *E. histolytica*, titre  $\geq 1:512$   
**OR**
- Demonstration of hypertrophied trophozoites in tissue biopsies or ulcer scrapings by histological staining or Iron-Haematoxylin staining techniques

### *Invasive amebiasis*

- Demonstration of hypertrophied *E. histolytica* trophozoites in extra-intestinal tissue  
**OR**
- Demonstration of positive serological test(s) for *E. histolytica*, titre  $\geq 1:512$

### **4.2 Approved/Validated Tests**

- O&P screening (Iron-Haematoxylin staining and F-E concentration) on stool samples preserved in Sodium acetate-acetic acid-formalin (SAF) fixative. (If hypertrophied trophozoites of *E. histolytica* found in IH stained smear, no further confirmatory tests required. If positive for *E. histolytica/dispar* by screen, then ELISA on unpreserved stool sample to distinguish between *E. histolytica* from *E. dispar*.)
- Stool antigen detection using ELISA on unpreserved stool samples, to distinguish between *E. histolytica* & *E. dispar*.
- Serological tests (e.g., IgG ELISA test, indirect haemagglutination [IHA] test)
- IH staining of smears prepared from colonic fluids or biopsies preserved SAF fixative
- H&E staining on intestinal or extra-intestinal sections

### **4.3 Indications and Limitations**

- Permanent staining such as IH are for the trophozoite forms; it may not detect the presence of cyst forms, especially when they are few in numbers
- The antigen of *E. histolytica* can only be detected in “fresh” unpreserved stool specimens, not in old or preserved ones
- Colonic fluids may yield positive results provided they are preserved in SAF fixative immediately after collection, *E. histolytica* trophozoites usually show in IH smears prepared from this type of specimens
- H&E sections show the presence of *E. histolytica* trophozoites in the infected tissue but the procedure is time consuming and a negative smear is inconclusive
- Patients with early infections may not exhibit a detectable IgG response. IgM testing is not available.
- Serology tends to be positive with invasive disease (e.g., colitis, hepatic abscess). However, diarrhea alone rarely causes serology to be positive at  $>1:512$ .
- Only serum samples are suitable for serology.

## **5.0 Clinical Evidence**

Infection of the large intestine by *E. histolytica* may result in an individual ranging in severity of symptoms from asymptomatic through to mild diarrhea and fulminant dysentery.

Mild symptoms may include intermittent diarrhea (can be bloody), cramps, vomiting and general malaise.

More severe amebic dysentery includes a sudden onset of fever, severe abdominal cramps, and an average of 15 to 20 stools per day consisting of liquid faeces flecked with bloody mucus. Death may occur from peritonitis resulting from gut perforation or from cardiac failure.

Invasive infections may affect various organs. Invasive infection (e.g., hepatic amebiasis, ameboma) may also occur. Invasive amebiasis will always be symptomatic with fever, abdominal pain, malaise and elevated liver function tests (for liver disease).

## 6.0 ICD Code(s)

ICD 10 Code A06

## 7.0 Comments

- According to the 2005 case definition, individuals that had an epidemiologic link to a confirmed case met the confirmed case definition. However, based on the 2008 case definition, these cases are now classified as probable.
- Non-hypertrophied "*E. histolytica/dispar*" in stool is not considered as conclusive evidence. Additional testing is required to differentiate between *E. histolytica* and *E. dispar*.

## 8.0 References

- National Notifiable Diseases Surveillance System. Case Definitions. [Internet]. Amebiasis; 1990. Atlanta, GA: Centers for Disease Control and Prevention (CDC); 2008. [cited 2009 Feb 12]. Available from [http://www.cdc.gov/ncphi/diss/nndss/casedef/amebiasis\\_current.htm](http://www.cdc.gov/ncphi/diss/nndss/casedef/amebiasis_current.htm).
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- Ministry of Health and Long-Term Care, Public Health Division. iPHIS manual. Toronto, ON: Queen's Printer for Ontario; 2005.

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# Appendix B: Provincial Case Definitions for Reportable Diseases

Disease: Anthrax

# Anthrax

## 1.0 Provincial Reporting

Confirmed, probable and suspect cases of disease

## 2.0 Type of Surveillance

Case-by -case

## 3.0 Case Classification

### 3.1 Confirmed Case

Laboratory confirmation of infection with clinically compatible signs and symptoms:

- Culture of *Bacillus anthracis* from a clinical specimen (e.g., blood)
- OR**
- Identification of *B. anthracis* in a clinical specimen (e.g., blood) using the fluorescent antibody technique

### 3.2 Probable Case

Clinically compatible signs and symptoms in a person in whom *B. anthracis* deoxyribonucleic acid (DNA) is detected and with an epidemiologic link to a confirmed case or suspected source

### 3.3 Suspect Case

Clinically compatible signs and symptoms in a person with an epidemiologic link to a confirmed case or suspected source

## 4.0 Laboratory Evidence

### 4.1 Laboratory Confirmation

Any of the following will constitute a confirmed case of Anthrax:

- Positive *B. anthracis* culture with confirmation (See Section 4.2)
- Positive *B. anthracis* direct fluorescent antibody (DFA) test

### 4.2 Approved/Validated Tests

- Standard culture for *B. anthracis* with confirmation
- DFA for *B. anthracis*
- Nucleic acid amplification test (NAT) for *B. anthracis*
- Confirmatory methods include combinations of Gram stain, motility, morphology, haemolysis, spores, demonstration of capsule and lysis by gamma phage

### 4.3 Indications and Limitations

- Potential for false negative NAT exists if virulence gene is lacking

## 5.0 Clinical Evidence

Three clinical forms are recognized: cutaneous, pulmonary or respiratory and gastrointestinal:

- With the cutaneous form, the skin begins to itch and a papule appears at the inoculation site. This papule then evolves into a depressed black eschar.

- The pulmonary form begins with mild upper respiratory tract symptoms. Some three to five days later the symptoms become acute with fever, shock and results in death.
- Gastrointestinal anthrax is manifested by violent gastroenteritis with vomiting and bloody stools.

#### **6.0 ICD Code(s)**

ICD 10 Code A22

#### **7.0 Comments**

N/A

#### **8.0 References**

- Acha PN, Szyfres B. Zoonoses and communicable diseases common to man and animals. 3<sup>rd</sup> ed. Volume I. Bacterioses and mycoses. Washington DC: Pan American Health Organization; 2003.
- National Notifiable Diseases Surveillance System. Case Definitions. [Internet]. Anthrax; 1996. Atlanta, GA: Centers for Disease Control and Prevention (CDC); 2008. [cited 2009 Feb 12]. Available from [http://www.cdc.gov/ncphi/diss/nndss/casedef/antrax\\_current\\_1.htm](http://www.cdc.gov/ncphi/diss/nndss/casedef/antrax_current_1.htm).
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**Date of Last Revision:** November 2008



# Appendix B: Provincial Case Definitions for Reportable Diseases

Disease: Botulism

### 1.0 Provincial Reporting

Confirmed, probable and suspect cases of disease

### 2.0 Type of Surveillance

Case-by-case

### 3.0 Case Classification

#### 3.1 Confirmed Case

A confirmed case requires definitive laboratory evidence.

##### 3.1.1. Confirmed Case of Foodborne Botulism

Laboratory confirmation of intoxication with clinically compatible signs and symptoms:

- Detection of botulinum toxin in serum, stool, gastric aspirate or food  
**OR**
- Isolation of *Clostridium botulinum* (*C. botulinum*) from stool or gastric aspirate

##### 3.1.2. Confirmed Case of Wound Botulism

Laboratory confirmation of infection with clinically compatible signs and symptoms:

- Detection of botulinum toxin in serum  
**OR**
- Isolation of *C. botulinum* from a wound  
**AND**
- Presence of a freshly infected wound in the 2 weeks before clinically compatible signs and symptoms **and** no evidence of consumption of food contaminated with *C. botulinum*

##### 3.1.3. Confirmed Case of Intestinal/Colonization Botulism

- Laboratory confirmation with clinically compatible signs and symptoms in a patient aged  $\geq 1$  year with severely compromised gastrointestinal tract functioning (i.e., abnormal bowel) due to various diseases such as colitis, or occurring in association with other conditions or procedures (e.g., intestinal bypass procedures) that may create local or widespread disruption in the normal intestinal flora  
**OR**
- Detection of botulinum toxin in stool or serum  
**OR**
- Isolation of *C. botulinum* from the patient's stool, or at autopsy

##### 3.1.4 Confirmed Case of Infant Botulism

Laboratory confirmation with clinically compatible signs and symptoms in a person less than one year of age:

- Detection of botulinum toxin in stool or serum  
**OR**
- Isolation of *C. botulinum* from the patient's stool, or at autopsy

### 3.2 Probable Case

- Clinically compatible signs and symptoms in a person with an epidemiologic link to a laboratory-confirmed case of foodborne botulism

### 3.3 Suspect Case

- Overwhelming clinical evidence of botulism, as determined by a Medical Officer of Health, in the absence of laboratory confirmation or an epidemiologic link

## 4.0 Laboratory Evidence

### 4.1 Laboratory Confirmation

Any of the following will constitute a confirmed case of Botulism:

- Detection of botulinum toxin, with or without culture
- Isolation of *C. botulinum*

### 4.2 Approved/Validated Tests

- Standard culture for *C. botulinum* with demonstration of neurotoxin where neurotoxin is detected in culture supernatant using mouse bioassay
- *C. botulinum* neurotoxin mouse bioassay

### 4.3 Indications and Limitations

- *C. botulinum* neurotoxin may not be detectable in serum. Administration of antitoxin prior to withdrawal of blood will result in a negative assay.
- Two other species of the genus, *C. baratii* and *C. butyricum* may produce the neurotoxin and should be entered as a case.
- Culture without toxin assay by mouse bioassay is not useful. Group I *C. botulinum* cannot be distinguished from *C. sporogenes* without toxin assay.
- Isolates and/or clinical specimens should be referred to the Botulism Reference Service for Canada
- Enzyme immunoassay (EIA) for botulinum toxin is not as sensitive as the mouse bioassay and therefore should not replace the mouse bioassay for neurotoxin detection in clinical specimens; however, EIA could be used to detect neurotoxin production from cultures.

## 5.0 Clinical Evidence

- **Foodborne/Wound/Intestinal:** Ingestion of botulinum toxin results in an illness of variable severity. Common symptoms are diplopia, blurred vision, bulbar weakness, dry mouth and difficulty swallowing and speaking. Descending and symmetric paralysis may progress rapidly, often requiring respiratory support.
- **Infant:** Clinically compatible signs and symptoms in infants are characterized but not limited to the following: constipation, lethargy, loss of appetite, weakness, altered/weak cry, decreased gag reflex, ptosis, hypotonia and loss of head control.

## 6.0 ICD Code(s)

### 6.1 ICD-10 Code(s)

A05.1 Botulism

### 6.2 ICD-9/ICD-9CM Code(s)

005.1 Botulism

## 7.0 Comments

- One case is considered an outbreak

- Note that infants under the age of one can also be diagnosed with foodborne botulism if the illness is due to toxin in the food
- Botulism toxin can be inhaled or ingested through water. These cases must also be reported.

## 8.0 References

- National Notifiable Diseases Surveillance System. Case Definitions. [Internet]. Botulism; 1996. Atlanta, GA: Centers for Disease Control and Prevention (CDC); 2008. [cited 2009 Feb 12]. Available from: [http://www.cdc.gov/ncphi/diss/nndss/casedef/botulism\\_current.htm](http://www.cdc.gov/ncphi/diss/nndss/casedef/botulism_current.htm).
- Heymann D, editor. Control of communicable diseases manual. 18th ed. Washington: American Public Health Association; 2004.
- Ministry of Health and Long-Term Care, Public Health Division. iPHIS manual. Toronto, ON: Queen's Printer for Ontario; 2005.
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# Appendix B: Provincial Case Definitions for Reportable Diseases

Disease: Brucellosis

## Brucellosis

### 1.0 Provincial Surveillance

Confirmed and probable cases of disease

### 2.0 Type of Surveillance

Case-by-case

### 3.0 Case Classification

#### 3.1 Confirmed Case

Laboratory confirmation of infection with clinically compatible signs and symptoms:

- Isolation of *Brucella* sp. from an appropriate clinical specimen (e.g., blood, tissue)
- OR**
- A significant (i.e., fourfold or greater) rise in Brucella agglutination titre between acute and convalescent serum specimens obtained 2 or more weeks apart and tested at the same laboratory

#### 3.2 Probable Case

- Clinically compatible signs and symptoms in a person with an epidemiologic link to a confirmed case
- OR**
- Clinically compatible signs and symptoms with supportive serology (i.e., Brucella agglutination test titre of 1:160 or higher in one or more serum specimens obtained after onset of symptoms)

### 4.0 Laboratory Evidence

#### 4.1 Laboratory Confirmation

Any of the following will constitute a confirmed case of Brucellosis:

- Positive *Brucella* sp. culture with confirmation (See Section 4.2)
- A significant (i.e., fourfold or greater) rise in *Brucella* sp. antibody titre

#### 4.2 Approved/Validated Tests

- Standard culture for *Brucella* sp. with confirmation
- Brucella serology
- Confirmatory methods include Tbilisi phage susceptibility, dye tolerance testing, slide agglutination, and nucleic acid amplification test (NAT)

#### 4.3 Indications and Limitations

- Additional tests may include NAT for *Brucella* sp. based on availability.

### 5.0 Clinical Evidence

Clinically compatible signs and symptoms are characterized by acute or insidious onset of fever, night sweats, undue fatigue, anorexia, weight loss, headache, and arthralgia.

### 6.0 ICD Code(s)

ICD 10 Code A23

## 7.0 Comments

N/A

## 8.0 References

- Acha PN, Szyfres B. Zoonoses and communicable diseases common to man and animals. 3<sup>rd</sup> ed. Volume I. Bacterioses and mycoses. Washington DC: Pan American Health Organization; 2003.
- National Notifiable Diseases Surveillance System. Case Definitions. [Internet]. Brucellosis; 1997. Atlanta, GA: Centers for Disease Control and Prevention (CDC); 2008. [cited 2009 Feb 12]. Available from [http://www.cdc.gov/ncphi/diss/nndss/casedef/brucellosis\\_current.htm](http://www.cdc.gov/ncphi/diss/nndss/casedef/brucellosis_current.htm).
- Heymann D, editor. Control of communicable diseases manual. 18th ed. Washington: American Public Health Association; 2004.
- Ministry of Health and Long-Term Care, Public Health Division. iPHIS manual. Toronto, ON: Queen's Printer for Ontario; 2005.
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# Appendix B: Provincial Case Definitions for Reportable Diseases

Disease: *Campylobacter* enteritis

## ***Campylobacter* enteritis**

### **1.0 Provincial Reporting**

Confirmed and probable cases of disease

### **2.0 Type of Surveillance**

Case-by-case

### **3.0 Case Classification**

#### **3.1 Confirmed Case**

Laboratory confirmation of infection with or without clinically compatible signs and symptoms:

- Isolation of *Campylobacter* spp. from an appropriate clinical specimen (e.g., stool, urine, body fluids)

#### **3.2 Probable Case**

Clinically compatible signs and symptoms in a person with an epidemiologic link to a laboratory-confirmed case

### **4.0 Laboratory Evidence**

#### **4.1 Laboratory Confirmation**

The following will constitute a confirmed case of Campylobacteriosis:

- Positive culture for *Campylobacter* spp.

#### **4.2 Approved/Validated Tests**

- Standard culture for *Campylobacter* spp.

#### **4.3 Indications and Limitations**

- Commercial nucleic acid amplification test (NAT) assays for *Campylobacter* spp. are presently not available
- Further strain characterization is indicated for epidemiological, public health and control purposes

### **5.0 Clinical Evidence**

Clinically compatible signs and symptoms are characterized by diarrhea, abdominal pain, malaise, fever, nausea, and/or vomiting

### **6.0 ICD Code(s)**

#### **6.1 ICD-10 Code(s)**

A04.5 *Campylobacter* enteritis

#### **6.2 ICD-9/ICD-9CM Code(s)**

008.43 *Campylobacter*

### **7.0 Comments**

N/A

## 8.0 References

- Acha PN, Szyfres B. Zoonoses and communicable diseases common to man and animals. 3<sup>rd</sup> ed. Volume I. Bacterioses and mycoses. Washington DC: Pan American Health Organization; 2003.
- Heymann D, editor. Control of communicable diseases manual. 18th ed. Washington: American Public Health Association; 2004.
- Ministry of Health and Long-Term Care, Public Health Division. iPHIS manual. Toronto, ON: Queen's Printer for Ontario; 2005.
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# Appendix B: Provincial Case Definitions for Reportable Diseases

Disease: Chancroid

## Chancroid

### 1.0 Provincial Reporting

Confirmed and probable cases of disease

### 2.0 Type of Surveillance

Case-by-case

### 3.0 Case Classification

#### 3.1 Confirmed Case

Laboratory confirmation of *Haemophilus ducreyi* in a specimen taken from an appropriate anatomical site (e.g., cervix, genital area, vaginal wall), with clinically compatible signs and symptoms

#### 3.2 Probable Case

Clinically compatible signs and symptoms in a person with an epidemiologic link to a laboratory-confirmed case

### 4.0 Laboratory Evidence

#### 4.1 Laboratory Confirmation

The following will constitute a confirmed case of Chancroid:

- Positive *Haemophilus ducreyi* culture

#### 4.2 Approved/Validated Tests

- Standard culture using gram stain (Note: The gram stain morphology will have a “school of fish-like” appearance)

#### 4.3 Indications and Limitations

- N/A

### 5.0 Clinical Evidence

Single or multiple painful, necrotizing ulcers at site of infection. There may also be tender inguinal lymphatic nodes.

### 6.0 ICD Code(s)

ICD 10 Code A57

### 7.0 Comments

N/A

### 8.0 References

- Public Health Agency of Canada. Canadian guidelines on sexually transmitted infections. Ottawa: Public Health Agency of Canada; 2008. Available from [http://www.phac-aspc.gc.ca/std-mts/sti\\_2006/pdf/Guidelines\\_Eng\\_complete\\_06-26-08.pdf](http://www.phac-aspc.gc.ca/std-mts/sti_2006/pdf/Guidelines_Eng_complete_06-26-08.pdf).
- National Notifiable Diseases Surveillance System. Case Definitions. [Internet]. Chancroid (*Haemophilus ducreyi*); 1996. Atlanta, GA: Centers for Disease

Control and Prevention (CDC); 2008. [cited 2009 Feb 12]. Available from [http://www.cdc.gov/ncphi/diss/nndss/casedef/chancroid\\_current.htm](http://www.cdc.gov/ncphi/diss/nndss/casedef/chancroid_current.htm).

- Ministry of Health and Long-Term Care, Public Health Division. iPHIS manual. Toronto, ON: Queen's Printer for Ontario; 2005.

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# Appendix B: Provincial Case Definitions for Reportable Diseases

Disease: Chickenpox (Varicella)

## Chickenpox (Varicella)

### 1.0 Provincial Reporting

Confirmed cases of disease

### 2.0 Type of Surveillance

Case-by-case and aggregate reporting

### 3.0 Case Classification

#### 3.1 Confirmed Case

Laboratory confirmation of infection with clinically compatible signs and symptoms in the absence of recent immunization with varicella-containing vaccine:

- Isolation or direct antigen detection of varicella-zoster virus (VZV) from an appropriate clinical specimen (e.g., vesicle/lesion fluid or swab submitted in viral transport media)

**OR**

- Detection of VZV DNA by nucleic acid amplification test (NAT)

**OR**

- Seroconversion or a significant rise by any standard serologic assay in varicella-zoster Immunoglobulin G (IgG) titre between acute and convalescent sera

**OR**

- Positive serologic test for varicella-zoster Immunoglobulin M (IgM) antibody

**OR**

- Clinically compatible signs and symptoms

### 4.0 Laboratory Evidence

#### 4.1 Laboratory Confirmation

Any of the following will constitute a confirmed case of Chickenpox:

- Positive for varicella-zoster virus (VZV) IgM antibody
- Seroconversion or rise in VZV specific IgG titre
- Positive VZV culture with immunofluorescence (IF)
- Positive NAT for VZV

#### 4.2 Approved/Validated Tests

- Standard VZV culture
- Commercial tests for anti-VZV IgG and IgM antibody
- NAT for VZV DNA

#### 4.3 Indications and Limitations

Care must be taken when reviewing serological data without reference to the clinical picture as the response to VZV reactivation (shingles) may be the same as to primary chickenpox

### 5.0 Clinical Evidence

Clinically compatible signs and symptoms are characterized by a pruritic rash with rapid evolution from macules to papules, vesicles, and crusts; all stages may be

simultaneously present; lesions are superficial, may appear in crops, and have a predominantly central to peripheral distribution.

## **6.0 ICD Code(s)**

### **6.1 ICD-10 Code(s)**

B01 Varicella  
B02 Zoster

### **6.2 ICD-9/ICD-9CM Code(s)**

052 Chickenpox  
053 Herpes zoster

## **7.0 Comments**

- Varicella zoster virus may be identified in other clinical specimens (e.g., respiratory specimens, sterile sites). Consult with laboratory for further direction
- The disease is endemic in Ontario, therefore, clinical illness meets the case definition for confirmed case

## **8.0 References**

- Ministry of Health and Long-Term Care, Public Health Division. iPHIS manual. Toronto, ON: Queen's Printer for Ontario; 2005.
- Nationally Notifiable Diseases Case Definitions with Canadian Public Health Laboratory Network (CPHLN) and Epidemiologic Group Draft Edits. March 2007. Based on case definitions as written in the: Health Canada. Case definitions for diseases under national surveillance. Can Commun Dis Rep. 2000; 26 Suppl 3:i-iv 1-122. Available from <http://www.phac-aspc.gc.ca/publicat/ccdr-rmtc/00pdf/cdr26s3e.pdf>.

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# Appendix B: Provincial Case Definitions for Reportable Diseases

Disease: *Chlamydia trachomatis* infections

## ***Chlamydia trachomatis* infections**

### **1.0 Provincial Reporting**

Confirmed cases of disease

### **2.0 Type of Surveillance**

Case-by-case

### **3.0 Case Classification**

#### **3.1 Confirmed Case**

*Chlamydia trachomatis* detected in an appropriate clinical specimen (e.g., urogenital tract, rectal specimen)

### **4.0 Laboratory Evidence**

#### **4.1 Laboratory Confirmation**

Any of the following will constitute a confirmed case of *C. trachomatis* infection:

- Positive *C. trachomatis* culture
- Positive for *C. trachomatis* nucleic acid amplification test (NAT)
- Positive for *C. trachomatis* antigen
- Positive for *C. trachomatis* IgM antibodies (for diagnosis of *C. trachomatis* pneumonia in infants <3 months of age only)

#### **4.2 Approved/Validated Tests**

- Consult with laboratory with regards to testing and appropriate specimens

#### **4.3 Indications and Limitations**

- Commercially available approved/validated tests should only be used on approved specimen types (e.g., cervical, urethral); results from non-approved specimen types would need validation
- Culture has been the preferred method for medico-legal purposes. NAT may be suitable, provided that positive results are confirmed by a different set of primers.

### **5.0 Clinical Evidence**

A clinical consultation is necessary for diagnosis

### **6.0 ICD Code(s)**

ICD 10 Code A56

### **7.0 Comments**

Conjunctivitis in infants caused by *C. trachomatis* should be reported as ophthalmia neonatorum

### **8.0 References**

- Public Health Agency of Canada. Canadian guidelines on sexually transmitted infections. Ottawa: Public Health Agency of Canada; 2008. Available from [http://www.phac-aspc.gc.ca/std-mts/sti\\_2006/pdf/Guidelines\\_Eng\\_complete\\_06-26-08.pdf](http://www.phac-aspc.gc.ca/std-mts/sti_2006/pdf/Guidelines_Eng_complete_06-26-08.pdf).

- National Notifiable Diseases Surveillance System. Case Definitions. [Internet]. *Chlamydia trachomatis*, Genital Infections; 1996. Atlanta, GA: Centers for Disease Control and Prevention (CDC); 2008. [cited 2009 Feb 12]. Available from <http://www.cdc.gov/ncphi/diss/nndss/casedef/chlamydiacurrent.htm>.
- Ministry of Health and Long-Term Care, Public Health Division. iPHIS manual. Toronto, ON: Queen's Printer for Ontario; 2005.
- Nationally Notifiable Diseases Case Definitions with Canadian Public Health Laboratory Network (CPHLN) and Epidemiologic Group Draft Edits. March 2007. Based on case definitions as written in the: Health Canada. Case definitions for diseases under national surveillance. Can Commun Dis Rep. 2000; 26 Suppl 3:i-iv 1-122. Available from <http://www.phac-aspc.gc.ca/publicat/ccdr-rmtc/00pdf/cdr26s3e.pdf>.

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# Appendix B: Provincial Case Definitions for Reportable Diseases

Disease: Cholera

# Cholera

## 1.0 Provincial Reporting

Confirmed and probable cases of disease

## 2.0 Type of Surveillance

Case-by-case

## 3.0 Case Classification

### 3.1 Confirmed Case

Laboratory confirmation of infection with clinically compatible signs and symptoms:

- Isolation of cholera toxin producing *Vibrio cholerae* serovar O1 or O139 from an appropriate specimen (e.g., vomitus, stool)

### 3.2 Probable Case

Clinically compatible signs and symptoms in a person with an epidemiologic link to a laboratory-confirmed case

## 4.0 Laboratory Evidence

### 4.1 Laboratory Confirmation

The following will constitute a confirmed case of Cholera:

- Positive culture for toxigenic *V. cholerae*

### 4.2 Approved/Validated Tests

- Standard culture for *V. cholerae*
- Serotyping for O antigen

### 4.3 Indications and Limitations

- Toxigenicity of *V. cholerae* isolates should be established
- Further strain characterization, including antibiotic susceptibility testing, is indicated for epidemiological, public health and control purposes

## 5.0 Clinical Evidence

Clinically compatible signs and symptoms illness are characterized by mild or moderate diarrhea in roughly 90% of individuals. In 5-10% of cases, infected individuals develop severe, watery diarrhea and/or vomiting. The resulting loss of fluids in an infected individual can rapidly lead to severe dehydration. If not treated, death can occur within hours. Stools are typically colourless with flecks of mucous referred to as “rice water” diarrhea.

## 6.0 ICD Code(s)

ICD 10 Code A00

## 7.0 Comments

N/A

## 8.0 References

- National Notifiable Diseases Surveillance System. Case Definitions. [Internet]. Cholera; 1996. Atlanta, GA: Centers for Disease Control and Prevention (CDC); 2008. [cited 2009 Feb 12]. Available from [http://www.cdc.gov/ncphi/diss/nndss/casedef/cholera\\_current.htm](http://www.cdc.gov/ncphi/diss/nndss/casedef/cholera_current.htm).
- Heymann D, editor. Control of communicable diseases manual. 18th ed. Washington: American Public Health Association; 2004.
- Ministry of Health and Long-Term Care, Public Health Division. iPHIS manual. Toronto, ON: Queen's Printer for Ontario; 2005.
- Nationally Notifiable Diseases Case Definitions with Canadian Public Health Laboratory Network (CPHLN) and Epidemiologic Group Draft Edits. March 2007. Based on case definitions as written in the: Health Canada. Case definitions for diseases under national surveillance. Can Commun Dis Rep. 2000; 26 Suppl 3:i-iv 1-122. Available from <http://www.phac-aspc.gc.ca/publicat/ccdr-rmtc/00pdf/cdr26s3e.pdf>.
- Notifiable Diseases On-Line [Internet]. Ottawa: Public Health Agency of Canada; 2003. Cholera; 2003 Dec 11 [cited 2009 Feb 12]. Available from [http://dsol-smed.hc-sc.gc.ca/dsol-smed/ndis/disease2/chol\\_e.html](http://dsol-smed.hc-sc.gc.ca/dsol-smed/ndis/disease2/chol_e.html).

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# Appendix B: Provincial Case Definitions for Reportable Diseases

Disease: *Clostridium difficile* Infection (CDI) outbreaks in public hospitals

[Known as *Clostridium difficile* associated disease (CDAD) in the regulations under the HPPA]

Revised January, 2012

## ***Clostridium difficile* Infection (CDI) outbreaks in public hospitals**

### **1.0 Provincial Reporting**

Confirmed outbreaks and outbreak-associated cases occurring in hospitals under the Public Hospitals Act

### **2.0 Type of Surveillance**

Outbreak and case level data

### **3.0 Outbreak Classification**

CDI outbreak definitions have been revised to incorporate the concept of notification thresholds, which are more sensitive than outbreak definitions.

#### **3.1 Notification Thresholds Definition**

- For wards/units with  $\geq 20$  beds, 3 cases of nosocomial CDI identified on one ward/unit within a seven day period or 5 cases within a 4 week period;  
**OR**
- For wards/units with  $< 20$  beds, 2 cases of nosocomial CDI identified on one ward/unit within a seven day period or 4 cases within a 4 week period;  
**OR**
- Hospitals that have a baseline CDI rate for two months that is at or above the 80th percentile for comparator hospitals;  
**OR**
- Hospitals that have a facility rate that is greater than or equal to 2 standard deviations above their baseline.

**Note:** This does not apply to small hospitals with a single case of nosocomial CDI which artificially elevates the facility rate

Following consultation between the institution and the Medical Officer of Health (MOH), decisions on the declaration of an outbreak will be made based on the following two criteria:

- Significant\* (as determined by the facility and health unit) increase in CDI numbers or rate compared to own baseline and/or that of comparator institutions
- Epidemiologic evidence of ongoing nosocomial transmission within the ward/unit or facility

\*Significance may be determined by reviewing:

- Number of new nosocomial cases associated with the reporting ward/unit or facility;
- Historic level of CDI activity of the ward/unit or facility;
- Current trend in ward/unit CDI activity or facility rate;
- Location of current cases and possible epidemiologic links between cases;

### 3.2 Confirmed Case Definition

- Diarrhea\* with laboratory confirmation of toxin A or B for *C. difficile* (e.g. Enzyme immunoassay for toxin A or B , PCR for *C. difficile* toxin genes A or B, or *C. difficile* cytotoxicity assay);  
**OR**
- Visualization of pseudomembranes on sigmoidoscopy or colonoscopy;  
**OR**
- Histological/pathological diagnosis of pseudomembranous colitis;  
**OR**
- Diagnosis of toxic megacolon.

\*Diarrhea is defined as:

- loose/watery bowel movements (conform to the shape of the container), and
- the bowel movements are unusual or different for the patient, and
- there is no other recognized etiology for the diarrhea (for example, laxative use)

The following definitions should be used to determine whether the case is nosocomial:

#### 3.2.1 New nosocomial case of CDI associated with reporting facility

- A case that meets the case definition for CDI;  
**AND**
- CDI was not present on admission (i.e., onset of symptoms >72 hours after admission);

**OR**

- The infection was present at time of admission but was related to a previous admission to the same facility within the last 4 weeks.  
**AND**
- The case has not had CDI in the past 8 weeks.

#### 3.2.2 New nosocomial case of CDI associated with other health care facilities

- A case that meets the case definition for CDI;  
**AND**
- CDI was present on admission;

**OR**

- The case had symptom onset <72 hours after admission;  
**AND**
- The case was exposed to any other health care facility (including LTC) other than the reporting facility within the last 4 weeks;  
**AND**
- The case has not had CDI in the past 8 weeks.

#### 3.2.3 New case of CDI associated with source other than a health care facility or indeterminate source

- A case that meets the case definition for CDI;  
**AND**
- CDI was present on admission;

**OR**

- The case had symptom onset <72 hours after admission;  
**AND**
  - There was no exposure to any health care facility within the last 4 weeks
- OR**
- The source of infection cannot be determined;  
**AND**
  - The case has not had CDI in the past 8 weeks.

## 4.0 Laboratory Evidence

### 4.1 Laboratory Confirmation

Any of the following will constitute a confirmed case of CDI:

- Laboratory confirmation by validated methods
- Visualization of pseudomembranes on sigmoidoscopy or colonoscopy
- Histological/pathological diagnosis of pseudomembranous colitis
- Diagnosis of toxic megacolon

### 4.2 Approved/Validated Tests

- *Clostridium difficile* (*C. difficile*) enzyme immunoassay (EIA) for toxin (A/B)
- Molecular testing (PCR) for *C. difficile* toxin genes (A/B)
- *C. difficile* cytotoxicity assay

### 4.3 Indications and Limitations

- Laboratory testing for CDI requires the identification of toxin A or B, or the genes related to cytotoxin production. Cultures for *C. difficile* are not routinely performed, and require confirmation of toxin A/B of the related genes.
- Stool specimen collection should occur as soon as possible after the onset of symptoms.
- Specimens are not recommended from patients who are less than 12 months old.
- Quick turnaround time for *C. difficile* cytotoxin and PCR testing is essential and should be pre-arranged with the microbiology laboratory serving the facility.
- A single negative EIA should not be relied on to rule out *C. difficile*. If a single EIA is negative, a second specimen should be sent. The role of repeating a PCR test is not known, and is not routinely recommended.
- *C. difficile* toxin testing and PCR are not recommended as a test of cure. Toxin may be detected long after clinical symptoms have resolved.
- Formed stool specimens will be rejected. If CDI is still suspected, contact the testing laboratory to arrange testing.

## 5.0 Clinical Evidence

**Clinically compatible signs and symptoms are characterized by the following:**

- Diarrhea (as defined above)
- Fever
- Loss of appetite
- Nausea and
- Abdominal pain or tenderness

*C. difficile* infection can lead to diseases ranging from mild diarrhea to toxic megacolon and death.

## 6.0 ICD Code(s)

ICD 10 Code J22a

## 7.0 Comments

- It should be noted that exceeding a threshold does not necessarily imply that an outbreak will be declared. Declaration of an outbreak can be made by either the institution or the MOH.
- In the event of a disagreement between the institution and the MOH, the MOH has the authority to determine if an outbreak of a communicable disease exists, for purposes of exercising statutory powers under the HPPA. Once an outbreak is declared it is reported to the Ministry of Health and Long Term Care through integrated Public Health Information System (iPHIS).
- The hospital may declare an outbreak over and shall consult with the MOH in doing so. Rationale for declaring or not declaring an outbreak, and declaring an outbreak over should be documented.

## 8.0 References

- Control of *Clostridium difficile* Infection (CDI) Outbreaks in Hospitals, A Guide for Hospital and Health Unit Staff, December 2009.
- Ontario Ministry of Health and Long Term Care, Provincial Infectious Diseases Advisory Committee (PIDAC). Testing, Surveillance and Management of *Clostridium difficile* In All Health Care Settings. 2010. Available from [http://www.health.gov.on.ca/english/providers/program/infectious/diseases/best\\_prac/bp\\_cdifff.pdf](http://www.health.gov.on.ca/english/providers/program/infectious/diseases/best_prac/bp_cdifff.pdf).
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- Public Health Agency of Canada, *Clostridium difficile* It's your health; 2006 <http://www.hc-sc.gc.ca/hl-vs/iyh-vs/diseases-maladies/cdifficile-eng.php>
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- Ministry of Health and Long-Term Care. Control of *Clostridium difficile* Infection (CDI) Outbreaks in Hospitals, A Guide for Hospital and Health Unit Staff. 2009. Available from [http://www.health.gov.on.ca/patient\\_safety/pro/cdad/pro\\_resource/guide\\_cdi\\_infect\\_control.pdf](http://www.health.gov.on.ca/patient_safety/pro/cdad/pro_resource/guide_cdi_infect_control.pdf).



# Appendix B: Provincial Case Definitions for Reportable Diseases

Disease: Cryptosporidiosis

# Cryptosporidiosis

## 1.0 Provincial Reporting

Confirmed and probable cases of disease

## 2.0 Type of Surveillance

Case-by-case

## 3.0 Case Classification

### 3.1 Confirmed Case

Laboratory confirmation of infection, with or without clinically compatible signs and symptoms, from an appropriate clinical specimen (e.g., stool, intestinal fluid, small bowel biopsy):

- Demonstration of *Cryptosporidium* oocysts
- OR
- Detection of *Cryptosporidium* deoxyribonucleic acid (DNA)
- OR
- Demonstration of *Cryptosporidium* antigen by an approved method (e.g., enzyme immunoassay [EIA], immunochromatographic test [ICT])

### 3.2 Probable Case

Clinically compatible signs and symptoms in a person with an epidemiologic link to a laboratory-confirmed case

## 4.0 Laboratory Evidence

### 4.1 Laboratory Confirmation

Any of the following will constitute a confirmed case of Cryptosporidiosis:

- Positive for *Cryptosporidium* oocysts
- Positive for *Cryptosporidium* DNA
- Positive for *Cryptosporidium* antigen

### 4.2 Approved/Validated Tests

- Microscopy
- Direct fluorescent antibody (DFA)
- Nucleic acid amplification test (NAT) for *Cryptosporidium*
- *Cryptosporidium* immunoassays (EIA, ICT)

### 4.3 Indications and Limitations

- *Cryptosporidium* oocysts can be recovered from microscopic examination of concentrated material from faecal specimens but it is difficult when the number of oocysts is low.
- Trichrome and iron haematoxylin stains are not the methods of choice. Auramine-rhodamine stains may be useful for screening.
- Presumptive identification should be confirmed by modified acid fast stains (e.g., Safranin) or immunoassays

- While *Cryptosporidium parvum* and *Cryptosporidium hominis* are the leading causes of cryptosporidiosis, other species are known to cause diarrheal illness in immunocompromised individuals.

## 5.0 Clinical Evidence

Clinically compatible signs and symptoms are characterized by diarrhea (often profuse and watery), abdominal cramps, anorexia, fever, nausea, general malaise and vomiting

## 6.0 ICD Code(s)

### 6.1 ICD-10 Code(s)

A07.2 Cryptosporidiosis

### 6.2 ICD-9/ICD-9CM Code(s)

007.4 Cryptosporidiosis

## 7.0 Comments

N/A

## 8.0 References

- Acha PN, Szyfres B. Zoonoses and communicable diseases common to man and animals. 3<sup>rd</sup> ed. Volume III. Parasitoses. Washington DC: Pan American Health Organization; 2003.
- National Notifiable Diseases Surveillance System. Case Definitions. [Internet]. Cryptosporidiosis; 2009. Atlanta, GA: Centers for Disease Control and Prevention (CDC); 2009. [cited 2009 Feb 12]. Available from [http://www.cdc.gov/ncphi/diss/nndss/casedef/cryptosporidiosis\\_2009.htm](http://www.cdc.gov/ncphi/diss/nndss/casedef/cryptosporidiosis_2009.htm).
- Nationally Notifiable Diseases Case Definitions with Canadian Public Health Laboratory Network (CPHLN) and Epidemiologic Group Draft Edits. March 2007. Based on case definitions as written in the: Health Canada. Case definitions for diseases under national surveillance. Can Commun Dis Rep. 2000; 26 Suppl 3:i-iv 1-122. Available from <http://www.phac-aspc.gc.ca/publicat/ccdr-rmtc/00pdf/cdr26s3e.pdf>.
- Heymann D, editor. Control of communicable diseases manual. 18th ed. Washington: American Public Health Association; 2004.
- Ministry of Health and Long-Term Care, Public Health Division. iPHIS manual. Toronto, ON: Queen's Printer for Ontario; 2005.

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# Appendix B: Provincial Case Definitions for Reportable Diseases

Disease: Cyclosporiasis

Revised January, 2011

# Cyclosporiasis

## 1.0 Provincial Reporting

Confirmed and probable cases of disease

## 2.0 Type of Surveillance

Case-by-case

## 3.0 Case Classification

### 3.1 Confirmed Case

Laboratory confirmation of infection, with or without clinically compatible signs and symptoms, from an appropriate clinical specimen (e.g., stool, duodenal/jejunal aspirate, small bowel biopsy):

- Demonstration of *Cyclospora cayetanensis* oocysts (by morphologic criteria) or *Cyclospora* deoxyribonucleic acid (DNA), by polymerase chain reaction (PCR)

### 3.2 Probable Case

Clinically compatible signs and symptoms in a person with an epidemiologic link to a laboratory-confirmed case either by:

- Consumption of the same food or exposure to food known to be handled by a confirmed case  
OR
- A history of travel to a cyclospora-endemic area

## 4.0 Laboratory Evidence

### 4.1 Laboratory Confirmation

The following will constitute a confirmed case of Cyclosporiasis:

- Microscopic demonstration of *Cyclospora cayetanensis* oocysts.

### 4.2 Approved/Validated Tests

- Microscopy
- PCR

### 4.3 Indications and Limitations

- Nucleic acid amplification test (NAT) is under development for diagnostic use but is not currently being performed in Canada

## 5.0 Clinical Evidence

Clinically compatible signs and symptoms are characterized by watery diarrhea (> five bowel movements within a 24 hour period), loss of appetite, weight loss, abdominal bloating and cramping, increased flatus, nausea, fatigue, and low-grade fever. Vomiting may also occur. Relapses and asymptomatic infections can occur. Some evidence suggests that symptoms may be more severe and long-lasting in immunocompromised individuals.

## 6.0 ICD Code(s)

### 6.1 ICD-10 Code(s)

A07.8 Other specified protozoal intestinal diseases (includes *Cyclospora cayetanensis*)

### 6.2 ICD-9/ICD-9CM Code(s)

007.5 Cyclosporiasis

### 7.0 Comments

This disease is not endemic in Canada, therefore should be investigated as most likely associated with imported food or travel.

### 8.0 References

- Acha PN, Szyfres B. Zoonoses and communicable diseases common to man and animals. 3<sup>rd</sup> ed. Volume III. Parasitoses. Washington DC: Pan American Health Organization; 2003.
- National Notifiable Diseases Surveillance System. Case Definitions. [Internet]. Cyclosporiasis; 1998. Atlanta, GA: Centers for Disease Control and Prevention (CDC); 2008. [cited 2009 Feb 12]. Available from [http://www.cdc.gov/ncphi/diss/nndss/casedef/cyclosporiasis\\_current.htm](http://www.cdc.gov/ncphi/diss/nndss/casedef/cyclosporiasis_current.htm).
- Heymann D, editor. Control of communicable diseases manual. 18th ed. Washington: American Public Health Association; 2004.
- Ministry of Health and Long-Term Care, Public Health Division. iPHIS manual. Toronto, ON: Queen's Printer for Ontario; 2005.
- Nationally Notifiable Diseases Case Definitions with Canadian Public Health Laboratory Network (CPHLN) and Epidemiologic Group Draft Edits. March 2007. Based on case definitions as written in the: Health Canada. Case definitions for diseases under national surveillance. Can Commun Dis Rep. 2000; 26 Suppl 3:i-iv 1-122. Available from <http://www.phac-aspc.gc.ca/publicat/ccdr-rmtc/00pdf/cdr26s3e.pdf>.



# Appendix B: Provincial Case Definitions for Reportable Diseases

Disease: Cytomegalovirus infection, congenital

## Cytomegalovirus infection, congenital

### 1.0 Provincial Reporting

Confirmed and probable cases of disease

### 2.0 Type of Surveillance

Case-by-case

### 3.0 Case Classification

#### 3.1 Confirmed Case

- Liveborn (within first three weeks of life) with clinically compatible signs and symptoms and laboratory evidence of cytomegalovirus (CMV) from an appropriate clinical site (e.g., urine, saliva, secretions or tissue)  
**OR**
- Stillborn with laboratory evidence of CMV

#### 3.2 Probable Case

Presence of one or more clinically compatible signs and symptoms, obtained in the first 3 months of life and the exclusion of other diseases that produce these abnormalities.

### 4.0 Laboratory Evidence

#### 4.1 Laboratory Confirmation

Any of the following will constitute a confirmed case of CMV infection:

- Positive CMV culture from any clinical specimen (e.g., urine, saliva, secretions or tissue)
- Positive for CMV nucleic acid from any clinical specimen
- Demonstration of typical cytomegalic inclusion-bearing cells in sediments of body fluids
- Serological evidence of CMV Immunoglobulin M (IgM) is suggestive. A significant (i.e., fourfold or greater) rise in CMV Immunoglobulin G (IgG) antibody titre level.

#### 4.2 Approved/Validated Tests

- Standard culture for CMV with confirmation
- Nucleic acid amplification test (NAT) for CMV

#### 4.3 Indications and Limitations

- N/A

### 5.0 Clinical Evidence

Infection with CMV often passes undiagnosed as a febrile illness without specific characteristics. Clinically compatible signs and symptoms defined as one or more of the following:

- Haematologic: petechiae or purpura
- Hepatomegaly
- Splenomegaly
- Microcephaly

- Chorioretinit is
- Intra-cranial calcifications
- Jaundice at birth
- Hearing impairment
- Platelet count of less than or equal 75,000/mm<sup>3</sup>

#### **6.0 ICD Code(s)**

ICD 10 Code P35.1

#### **7.0 Comments**

Manifestations of infection vary depending on the age and immunocompetence of the individual at the time of infection

#### **8.0 References**

- Heymann D, editor. Control of communicable diseases manual. 18th ed. Washington: American Public Health Association; 2004.
- Ministry of Health and Long-Term Care, Public Health Division. iPHIS manual. Toronto, ON: Queen's Printer for Ontario; 2005.

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# Appendix B: Provincial Case Definitions for Reportable Diseases

Disease: Diphtheria

## Diphtheria

### 1.0 Provincial Reporting

Confirmed and probable cases of disease

### 2.0 Type of Surveillance

Case-by-case

### 3.0 Case Classification

#### 3.1 Confirmed Case

Clinically compatible signs and symptoms in a person with an upper respiratory tract infection or infection at another site PLUS at least one of the following:

- Isolation of *Corynebacterium diphtheriae* with confirmation of toxin from an appropriate clinical specimen (e.g., nasopharyngeal, nasal or cutaneous sites, exudate of membrane)  
**OR**
- Histopathologic diagnosis of diphtheria  
**OR**
- Epidemiological link to a laboratory-confirmed case (i.e., contact within 2 weeks prior to onset of symptoms)

#### 3.2 Probable Case

Clinically compatible signs and symptoms in the absence of laboratory confirmation or in the absence of an epidemiological link to a laboratory-confirmed case

### 4.0 Laboratory Evidence

#### 4.1 Laboratory Confirmation

The following will constitute a confirmed case Diphtheria:

- Isolation of *C. diphtheriae* with confirmation of toxin from an appropriate clinical specimen
- Histopathologic diagnosis of diphtheria

#### 4.2 Approved/Validated Tests

- Standard culture for *C. diphtheriae*
- Elek test for toxin detection
- Consult with laboratory prior to testing to discuss specimen collection and testing issues

#### 4.3 Indications and Limitations

- All positive smears require follow-up testing for confirmation.
- Direct-stained smears and fluorescent antibody-stained smears may be unreliable
- Further strain characterization is indicated for epidemiological, public health and control purposes
- NAT positives for diphtheria toxin must be confirmed with the Elek test

## 5.0 Clinical Evidence

Clinical illness is characterized as an upper respiratory tract infection (nasopharyngitis, laryngitis, or tonsillitis) with or without an adherent nasal, tonsillar, pharyngeal and/or laryngeal membrane, plus at least one of the following:

- Gradually increasing stridor
- Cardiac (myocarditis) and/or neurologic involvement (motor and/or sensory palsies) 1 to 6 weeks after onset
- Death, with no known cause

## 6.0 ICD Code(s)

### 6.1 ICD-10 Code(s)

A36 Diphtheria

### 6.2 ICD-9/ICD-9CM Code(s)

032 Diphtheria

## 7.0 Comments

Mode of transmission is through contact with a case or carrier; more rarely, contact with articles soiled with discharges from lesions of infected people. Raw milk has served as a vehicle.

## 8.0 References

- Ministry of Health and Long-Term Care, Public Health Division. iPHIS manual. Toronto, ON: Queen's Printer for Ontario; 2005.
- Nationally Notifiable Diseases Case Definitions with Canadian Public Health Laboratory Network (CPHLN) and Epidemiologic Group Draft Edits. March 2007. Based on case definitions as written in the: Health Canada. Case definitions for diseases under national surveillance. Can Commun Dis Rep. 2000; 26 Suppl 3:i-iv 1-122. Available from <http://www.phac-aspc.gc.ca/publicat/ccdr-rmtc/00pdf/cdr26s3e.pdf>.

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# Appendix B: Provincial Case Definitions for Reportable Diseases

Disease: Encephalitis, including: i) Primary, viral; ii) Post-infectious; iii) Vaccine-related; iv) Subacute sclerosing panencephalitis, and v) Unspecified

**Encephalitis, including: i) Primary, viral; ii) Post infectious; iii) Vaccine-related; iv) Subacute sclerosing panencephalitis, and v) Unspecified**

**1.0 Provincial Reporting**

Confirmed and probable cases of disease

**2.0 Type of Surveillance**

Case-by-case

**3.0 Case Classification**

**3.1 Confirmed Case**

Laboratory confirmation of infection with clinically compatible signs and symptoms of encephalitis:

- Isolation of organism from an appropriate clinical specimen (e.g., cerebrospinal fluid, stool)  
**OR**
- Detection of nucleic acid from appropriate clinical specimens (e.g., cerebrospinal fluid, stool)  
**OR**
- Detection of specific antigen  
**OR**
- Serologic confirmation of infection with an organism known to cause encephalitis

**3.2 Probable Case**

Clinically compatible signs and symptoms of encephalitis in the absence of laboratory confirmation of a causative organism

**4.0 Laboratory Evidence**

Given the variability of etiological organisms, consult with laboratory about appropriate specimens and testing methodologies

**5.0 Clinical Evidence**

Clinically compatible signs and symptoms are characterized by fever, headache, and altered mental status ranging from confusion to coma with or without additional signs of brain dysfunction (e.g., paresis or paralysis, cranial nerve palsies, sensory deficits, abnormal reflexes, generalized convulsions, and abnormal movements).

**6.0 ICD Code(s)**

**6.1 ICD 10 Code**

G05.1 Primary, viral

**6.2 ICD 10 Code**

G04.9 Unspecified

## 7.0 Comments

### Exclusionary Criteria for Meeting the Case Definition

- Encephalitis due to *Haemophilus influenzae b*, *Neisseria meningitidis*, *Streptococcus pneumoniae* (IPD), Tuberculosis, West Nile Virus, or *Listeria monocytogenes* should be reported under the corresponding diseases.
- Post-infectious encephalitis due to measles, rubella, mumps or varicella should be reported under the respective condition as a complication of the illness
- Post-vaccine encephalitis should be reported as an Adverse Event Following Immunization (AEFI)
- West Nile virus was reported under Encephalitis between January 2003 and July 2004. As of July 2004, West Nile virus encephalitis should be reported as West Nile virus.

## 8.0 References

- National Notifiable Diseases Surveillance System. Case Definitions. [Internet]. Neuroinvasive and Non-Neuroinvasive Domestic Arboviral Diseases; 2004. Atlanta, GA: Centers for Disease Control and Prevention (CDC); 2008. [cited 2009 Feb 12]. Available from [http://www.cdc.gov/ncphi/diss/nndss/casedef/arboviral\\_current.htm](http://www.cdc.gov/ncphi/diss/nndss/casedef/arboviral_current.htm).
- Ministry of Health and Long-Term Care, Public Health Division. iPHIS manual. Toronto, ON: Queen's Printer for Ontario; 2005.

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# Appendix B: Provincial Case Definitions for Reportable Diseases

Disease: Food poisoning, all causes

## Food poisoning, all causes

### 1.0 Provincial Reporting

Confirmed and probable cases of disease

### 2.0 Type of Surveillance

Case-by -case

### 3.0 Case Classification

#### 3.1 Confirmed Case

Clinically compatible signs and symptoms, known to be linked to food consumption with:

- Identification of a pathogenic organism, toxin or other agent in vomitus, stool, or a suspected food item

#### 3.2 Probable Case

Clinically compatible signs and symptoms, known to be linked to food consumption with:

- An epidemiological link\* to one or more laboratory-confirmed cases of food poisoning

\* An individual who consumed the same food or food from the same source as the laboratory-confirmed case

#### 3.2 Suspect Case

An incident in which two or more persons experience a similar illness after ingestion of a common food, and epidemiologic analysis implicates the food as the source of the illness

### 4.0 Laboratory Evidence

- Given the variability of etiological organisms, consult with laboratory about appropriate specimens and testing methodologies
- Refer to the MOHLTC Specimen Collection Guide  
<http://www.health.gov.on.ca/english/providers/pub/labs/specimen.html>

### 5.0 Clinical Evidence

Clinically compatible signs and symptoms depend upon etiologic agent and may include vomiting, abdominal pain, malaise, fever, nausea, dizziness, headache, and/or diarrhea

### 6.0 ICD Code (s)

ICD 10 Code A09

### 7.0 Comments

N/A

#### Exclusionary Criteria for Meeting the Case Definition for Food Poisoning

- Food poisonings under investigation that are subsequently determined to be caused by the following organisms: *Clostridium botulinum*, *Campylobacter* spp.,

*Listeria monocytogenes*, *Salmonella* spp., *Shigella* spp., Verotoxin-producing *E. coli* or *Yersinia* spp. should be reported under their respective diseases. All other identified pathogens should be reported as food poisoning cases.

## 8.0 References

- National Notifiable Diseases Surveillance System. Case Definitions. [Internet]. Foodborne Disease Outbreak; 1990. Atlanta, GA: Centers for Disease Control and Prevention (CDC); 2008. [cited 2009 Feb 12]. Available from <http://www.cdc.gov/ncphi/diss/nndss/casedef/foodbornecurrent.htm>.
- Heymann D, editor. Control of communicable diseases manual. 18th ed. Washington: American Public Health Association; 2004.
- Ministry of Health Long Term-Care, Public Health Laboratories. Specimen collection guide: testing guidelines. Toronto: Queen's Printer for Ontario; 2008. Available from [http://www.health.gov.on.ca/english/providers/pub/labs/specimen\\_guide/testing\\_guidelines.pdf](http://www.health.gov.on.ca/english/providers/pub/labs/specimen_guide/testing_guidelines.pdf).
- Ministry of Health and Long-Term Care, Public Health Division. iPHIS manual. Toronto, ON: Queen's Printer for Ontario; 2005.

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# Appendix B: Provincial Case Definitions for Reportable Diseases

Disease: Gastroenteritis, institutional outbreaks

## Gastroenteritis, institutional outbreaks

### 1.0 Provincial Reporting

Confirmed outbreaks

### 2.0 Type of Surveillance

Outbreak summary data

### 3.0 Outbreak Classification

#### 3.1 Confirmed Outbreak Definition (See Note in Section 7.0 for further details)

- Three or more cases\* with signs and symptoms compatible with infectious gastroenteritis in a specific unit or floor within a four-day period  
**OR**
- Three or more units/floors having a case of infectious gastroenteritis within 48 hours

### 4.0 Laboratory Evidence

#### 4.1 Laboratory Confirmation

- Confirmation of an outbreak of Gastroenteritis is not dependant on laboratory confirmation.

#### 4.2 Approved/Validated Tests

- Given the variability of etiological organisms, consult with laboratory about appropriate testing methodologies

#### 4.3 Indications and Limitations

- N/A

### 5.0 Clinical Evidence

Clinically compatible signs and symptoms depend upon etiologic agent and may include nausea, vomiting, diarrhea, abdominal pain or tenderness

### 6.0 ICD Code(s)

ICD 10 Code A09A

### 7.0 Comments

#### Note:

- It is recognized that the confirmed outbreak definition (Section 3.1) may be overly sensitive. A Gastroenteritis institutional outbreak should therefore be declared by the Medical Officer of Health (MOH) or designate, or by the outbreak management team of the institution.
- If an outbreak is declared by the MOH or designate, or the outbreak management team of the institution, then that outbreak is reportable.

\* To be defined as a case within a gastroenteritis outbreak, **at least one** of the following must be met:

- Two or more episodes of loose/watery bowel movements (conforms to the shape of the container) within a 24-hour period, or **two or more** episodes of vomiting within a 24-hour period  
**OR**
- One episode of loose/watery bowel movements (conforms to the shape of the container) and one episode of vomiting within a 24-hour period  
**OR**
- Laboratory confirmation of a known gastrointestinal pathogen **and** at least one symptom compatible with gastrointestinal infection – nausea, vomiting, diarrhea, abdominal pain or tenderness.

All Gastroenteritis outbreaks in institutions are reportable regardless of whether they are caused by:

- A reportable agent
- A non-reportable agent
- An unknown cause

**Note:** Once a reportable agent (e.g., *Salmonella*, *E. coli*, *CDAD*) is confirmed, cases should then be reported under its respective disease.

### 8.0 References

- Ministry of Health and Long-Term Care, Public Health Division. iPHIS manual. Toronto, ON: Queen's Printer for Ontario; 2005.
- Heymann D, editor. Control of communicable diseases manual. 18th ed. Washington: American Public Health Association; 2004.

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# Appendix B: Provincial Case Definitions for Reportable Diseases

Disease: Giardiasis, except asymptomatic cases

## Giardiasis, except asymptomatic cases

### 1.0 Provincial Reporting

Confirmed and probable cases of disease

### 2.0 Type of Surveillance

Case-by-case

### 3.0 Case Classification

#### 3.1 Confirmed Case

Laboratory confirmation of infection, with clinically compatible signs and symptoms, from an appropriate clinical specimen (e.g., stool, duodenal fluid, small bowel biopsy):

- Demonstration of *Giardia lamblia* cysts or trophozoites

**OR**

- Demonstration of *G. lamblia* antigen by an approved method (e.g., enzyme immunoassay [EIA], immunochromatographic test [ICT])

#### 3.2 Probable Case

Clinically compatible signs and symptoms in a person with an epidemiologic link to a laboratory-confirmed case

### 4.0 Laboratory Evidence

#### 4.1 Laboratory Confirmation

Any of the following will constitute a confirmed case of Giardiasis:

- Positive for *G. lamblia* cysts or trophozoites
- Positive for *G. lamblia* antigen

#### 4.2 Approved/Validated Tests

- Microscopy/DFA
- *Giardia* immunoassays (EIA, ICT)

#### 4.3 Indications and Limitations

- N/A

### 5.0 Clinical Evidence

Clinically compatible signs and symptoms are characterized by diarrhea, pale greasy stool, abdominal cramps, bloating, weight loss, fatigue or malabsorption of fats

### 6.0 ICD Code(s)

#### 6.1 ICD-10 Code(s)

A07.1 Giardiasis (lambliasis)

#### 6.2 ICD-9/ICD-9CM Code(s)

007.1 Giardiasis

## 7.0 Comments

N/A

## 8.0 References

- Acha PN, Szyfres B. Zoonoses and communicable diseases common to man and animals. 3<sup>rd</sup> ed. Volume III. Parasitoses. Washington DC: Pan American Health Organization; 2003.
- National Notifiable Diseases Surveillance System. Case Definitions. [Internet]. Giardiasis; 1997. Atlanta, GA: Centers for Disease Control and Prevention (CDC); 2008. [cited 2009 Feb 12]. Available from [http://www.cdc.gov/ncphi/diss/nndss/casedef/giardiasis\\_current.htm](http://www.cdc.gov/ncphi/diss/nndss/casedef/giardiasis_current.htm).
- Heymann D, editor. Control of communicable diseases manual. 18th ed. Washington: American Public Health Association; 2004.
- Ministry of Health and Long-Term Care, Public Health Division. iPHIS manual. Toronto, ON: Queen's Printer for Ontario; 2005.
- Nationally Notifiable Diseases Case Definitions with Canadian Public Health Laboratory Network (CPHLN) and Epidemiologic Group Draft Edits. March 2007. Based on case definitions as written in the: Health Canada. Case definitions for diseases under national surveillance. Can Commun Dis Rep. 2000; 26 Suppl 3:i-iv 1-122. Available from <http://www.phac-aspc.gc.ca/publicat/ccdr-rmtc/00pdf/cdr26s3e.pdf>.

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# Appendix B: Provincial Case Definitions for Reportable Diseases

Disease: Gonorrhoea

## Gonorrhoea

### 1.0 Provincial Reporting

Confirmed cases of disease

### 2.0 Type of Surveillance

Case-by-case

### 3.0 Case Classification

#### 3.1 Confirmed Case

*Neisseria gonorrhoeae* detected in an appropriate clinical specimen (e.g., urogenital, rectal or throat [pharyngeal] swab)

### 4.0 Laboratory Evidence

#### 4.1 Laboratory Confirmation

Any of the following will constitute a confirmed case of Gonorrhea:

- Positive *N. gonorrhoeae* culture
- Positive for *N. gonorrhoeae* nucleic acid amplification test (NAT)
- Positive Gram negative *intracellular diplococci* on urethral smear (male only)

#### 4.2 Approved/Validated Tests

- Standard culture for *N. gonorrhoeae*
- NAT for *N. gonorrhoeae*
- Gram negative diplococci on a smear of urethral discharge (male only)

#### 4.3 Indications and Limitations

- N/A

### 5.0 Clinical Evidence

A clinical consultation is necessary for diagnosis

### 6.0 ICD Code(s)

ICD 10 Code A54

### 7.0 Comments

- Gonorrhoea can be manifested by urethritis, cervicitis, or salpingitis, epididymitis, proctitis.
- Conjunctivitis in infants caused by *N. gonorrhoeae* should be reported as ophthalmia neonatorum

### 8.0 References

- Public Health Agency of Canada. Canadian guidelines on sexually transmitted infections. Ottawa: Public Health Agency of Canada; 2008. Available from [http://www.phac-aspc.gc.ca/std-mts/sti\\_2006/pdf/Guidelines\\_Eng\\_complete\\_06-26-08.pdf](http://www.phac-aspc.gc.ca/std-mts/sti_2006/pdf/Guidelines_Eng_complete_06-26-08.pdf).
- National Notifiable Diseases Surveillance System. Case Definitions. [Internet]. Gonorrhea (*Neisseria gonorrhoeae*); 1996. Atlanta, GA: Centers for Disease

Control and Prevention (CDC); 2008. [cited 2009 Feb 12]. Available from [http://www.cdc.gov/ncphi/diss/nndss/casedef/gonorrhea\\_current.htm](http://www.cdc.gov/ncphi/diss/nndss/casedef/gonorrhea_current.htm).

- Ministry of Health and Long-Term Care, Public Health Division. iPHIS manual. Toronto, ON: Queen's Printer for Ontario; 2005.
- Nationally Notifiable Diseases Case Definitions with Canadian Public Health Laboratory Network (CPHLN) and Epidemiologic Group Draft Edits. March 2007. Based on case definitions as written in the: Health Canada. Case definitions for diseases under national surveillance. Can Commun Dis Rep. 2000; 26 Suppl 3:i-iv 1-122. Available from <http://www.phac-aspc.gc.ca/publicat/ccdr-rmtc/00pdf/cdr26s3e.pdf>.

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# Appendix B: Provincial Case Definitions for Reportable Diseases

Disease: Group A Streptococcal Disease, invasive (iGAS)

Revised January, 2011

## Group A Streptococcal Disease, invasive (iGAS)

### 1.0 Provincial Reporting

Confirmed and probable cases of disease

### 2.0 Type of Surveillance

Case-by-case

### 3.0 Case Classification

#### 3.1 Confirmed Case

- Isolation of Group A *Streptococcus* (*Streptococcus pyogenes*) from a normally sterile site (e.g., blood, cerebrospinal fluid, joint, pleural, pericardial fluid) with or without clinical evidence of severity
- OR**
- Isolation of Group A *Streptococcus* from a non-sterile site (e.g., skin, sputum) with clinical evidence of severity

#### 3.2 Probable Case

Clinical evidence of severity in a person with an epidemiologic link to a laboratory-confirmed case of Group A Streptococcal disease.

### 4.0 Laboratory Evidence

#### 4.1 Laboratory Confirmation

Any of the following will constitute a confirmed case of invasive Group A Streptococcal (iGAS) Disease:

- Positive Group A *Streptococcus* culture from a normally sterile site (e.g., blood, cerebrospinal fluid, joint, pleural, pericardial fluid)
- Positive Group A *Streptococcus* culture from a non-sterile site (presumptive – pending clinical evidence of severity)

#### 4.2 Approved/Validated Tests

- Standard culture with serogrouping for Group A *Streptococcus*.

#### 4.3 Indications and Limitations

- Isolates should be forwarded to the National Reference Centre for further characterization

### 5.0 Clinical Evidence

Clinical evidence of invasive disease may be manifested as several conditions. The following are considered clinical evidence of severity:

- Streptococcal toxic- shock syndrome (STSS) which is characterised by hypotension (systolic B.P.  $\leq$  90mm Hg in adults or  $<$  5th percentile for age for children) and at least two (2) of the following signs:
  - renal impairment (creatinine  $>$  177  $\mu$ mol/L for adults);
  - coagulopathy (platelet count  $\leq$  100,000  $\text{mm}^3$  or disseminated intravascular coagulation);

- liver function abnormality (SGOT, SGPT or total bilirubin  $\geq 2x$  upper limit of normal for age);
- adult respiratory distress syndrome (ARDS);
- generalized erythematous macular rash that may desquamate

**OR**

- Soft-tissue necrosis, including necrotizing fasciitis or myositis or gangrene

**OR**

- Meningitis

**OR**

- Pneumonia

**OR**

- Death

**OR**

- A combination of any of these conditions

## 6.0 ICD Code(s)

### 6.1 ICD-10 Code(s)

A40.0 Septicaemia due to group A streptococcus

A49.1 Streptococcal infection, unspecified

B95.0 Group A Streptococcus as the cause of diseases classified elsewhere, e.g.:

A48.3 Toxic shock syndrome

O85 Puerperal sepsis

M72.6 Necrotizing fasciitis

M00 Pyogenic arthritis

G00.2 Streptococcal meningitis

### 6.2 ICD-9/ICD-9CM Code(s)

038.0 Septicaemia due to group A streptococcus

041.01 Group A Streptococcal infection of unspecified site and in conditions classified elsewhere, e.g.:

040.82 Toxic shock syndrome

670 Major puerperal infection

728.86 Necrotizing fasciitis

711.0 Pyogenic arthritis

320.2 Streptococcal meningitis

## 7.0 Comments

N/A

## 8.0 References

- Ministry of Health and Long-Term Care, Public Health Division. iPHIS manual. Toronto, ON: Queen's Printer for Ontario; 2005.
- Nationally Notifiable Diseases Case Definitions with Canadian Public Health Laboratory Network (CPHLN) and Epidemiologic Group Draft Edits. March 2007. Based on case definitions as written in the: Health Canada. Case definitions for diseases under national surveillance. Can Commun Dis Rep. 2000; 26 Suppl 3:i-iv 1-122. Available from <http://www.phac-aspc.gc.ca/publicat/ccdr-rmtc/00pdf/cdr26s3e.pdf>.



# Appendix B: Provincial Case Definitions for Reportable Diseases

Disease: Group B Streptococcal disease, neonatal

## Group B Streptococcal disease, neonatal

### 1.0 Provincial Reporting

Confirmed and probable cases of disease

### 2.0 Type of Surveillance

Case-by-case

### 3.0 Case Classification

#### 3.1 Confirmed Case

Laboratory detection of Group B *Streptococcus* (*Streptococcus agalactiae*) from a normally sterile site (e.g., cerebrospinal fluid [CSF]), with clinically compatible signs and symptoms of invasive disease in a newborn

#### 3.2 Probable Case

- Clinically compatible signs and symptoms with a diagnosis of invasive Group B streptococcal disease in a newborn whose mother has laboratory confirmation of Group B streptococci from a lower vaginal or anorectal specimen

### 4.0 Laboratory Evidence

#### 4.1 Laboratory Confirmation

Any of the following will constitute a confirmed case of Group B Streptococcal Disease of the newborn:

- Positive Group B *Streptococcus* (*Streptococcus agalactiae*) culture from a normally sterile site (e.g., CSF, blood, pleural or joint fluid) in infants
- Positive nucleic acid amplification test (NAT) for Group B *Streptococcus* from a normally sterile site in infants

#### 4.2 Approved/Validated Tests

- Standard culture for Group B *Streptococcus* with serogrouping
- NAT for group B *Streptococcus*
- Group B *Streptococcus* antigen test

#### 4.3 Indications and Limitations

- N/A

### 5.0 Clinical Evidence

Clinically compatible signs and symptoms are characterized by the following:

- Early onset disease (1-7 days), characterized by sepsis, pneumonia, and less frequently meningitis, osteomyelitis or septic arthritis
- OR**
- Late onset disease (7 days to 1 month), characterized by sepsis and meningitis.

### 6.0 ICD Code(s)

ICD 10 Code P36.0

## 7.0 Comments

Probable cases are included to ensure completeness of reporting in cases where an infant is treated early with antibiotics before all the appropriate specimens have been taken. It is expected that virtually all cases will be reported from hospitals.

## 8.0 References

- Heymann D, editor. Control of communicable diseases manual. 18th ed. Washington: American Public Health Association; 2004.
- Ministry of Health and Long-Term Care, Public Health Division. iPHIS manual. Toronto, ON: Queen's Printer for Ontario; 2005.
- Nationally Notifiable Diseases Case Definitions with Canadian Public Health Laboratory Network (CPHLN) and Epidemiologic Group Draft Edits. March 2007. Based on case definitions as written in the: Health Canada. Case definitions for diseases under national surveillance. Can Commun Dis Rep. 2000; 26 Suppl 3:i-iv 1-122. Available from <http://www.phac-aspc.gc.ca/publicat/ccdr-rmtc/00pdf/cdr26s3e.pdf>.

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# Appendix B: Provincial Case Definitions for Reportable Diseases

Disease: *Haemophilus influenzae* b disease, invasive

## ***Haemophilus influenzae* b disease, invasive**

### **1.0 Provincial Reporting**

Confirmed and probable cases of disease

### **2.0 Type of Surveillance**

Case-by-case

### **3.0 Case Classification**

#### **3.1 Confirmed Case**

Laboratory confirmation of infection (organism detected) with clinically compatible signs and symptoms of invasive disease:

- Isolation of *H. influenzae* serotype b from a normally sterile site (e.g., cerebrospinal fluid [CSF])

**OR**

- Isolation of *H. influenzae* serotype b from the epiglottis in a person with epiglottitis

#### **3.2 Probable Case**

Invasive disease with laboratory confirmation of infection (antigen detected):

- Demonstration of *H. influenzae* serotype b antigen in cerebrospinal fluid

**OR**

- Detection of *H. influenzae* deoxyribonucleic acid (DNA) by nucleic acid amplification test (NAT) in a normally sterile site

**OR**

Buccal cellulitis or epiglottitis in a child < 5 years of age with no other causative organisms isolated

### **4.0 Laboratory Evidence**

#### **4.1 Laboratory Confirmation**

Any of the following will constitute a confirmed case of invasive *H. influenzae* serotype b disease:

- Positive culture *H. influenzae* serotype b from a normally sterile site, or from the epiglottis in a person with epiglottitis

#### **4.2 Approved/Validated Tests**

- Standard culture for *H. influenzae* with serotyping
- *H. influenzae* type b antigen test
- Nucleic acid amplification test (NAT) for *H. influenzae*
- Consult with laboratory about appropriate specimens for each testing methodology

#### **4.3 Indications and Limitations**

- All invasive *H. influenzae* isolates should be serotyped to differentiate Hib from the other serotypes, and to identify specific serotypes other than Hib

- Further isolate characterization is indicated for epidemiological public health and control purposes.

## 5.0 Clinical Evidence

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

## 6.0 ICD Code(s)

### 6.1 ICD-10 Code(s)

A41.3 Septicaemia due to *Haemophilus*  
 A49.2 *H. influenzae* infection, unspecified site  
 B96.3 *H. influenzae* as cause of disease classified elsewhere  
 G00.0 Meningitis due to *Haemophilus*  
 J05.1 Acute epiglottitis  
 J14 Pneumonia due to *Haemophilus*  
 P23.6 Congenital pneumonia due to *Haemophilus*

### 6.2 ICD-9/ICD-9CM Code(s)

038.41 Septicaemia due to *Haemophilus*  
 041.5 *H. influenzae* infection of unspecified site and in conditions classified elsewhere  
 320.0 Meningitis due to *Haemophilus*  
 464.3 Acute epiglottitis  
 482.2 Pneumonia due to *Haemophilus*

## 7.0 Comments

N/A

## 8.0 References

- National Notifiable Diseases Surveillance System. Case Definitions. [Internet]. *Haemophilus influenzae* (Invasive Disease); 1997. Atlanta, GA: Centers for Disease Control and Prevention (CDC); 2008. [cited 2009 Feb 12]. Available from <http://www.cdc.gov/ncphi/diss/nndss/casedef/haemophiluscurrent.htm>.
- Ministry of Health and Long-Term Care, Public Health Division. iPHIS manual. Toronto, ON: Queen's Printer for Ontario; 2005.
- Nationally Notifiable Diseases Case Definitions with Canadian Public Health Laboratory Network (CPHLN) and Epidemiologic Group Draft Edits. March 2007. Based on case definitions as written in the: Health Canada. Case definitions for diseases under national surveillance. Can Commun Dis Rep. 2000; 26 Suppl 3:i-iv 1-122. Available from <http://www.phac-aspc.gc.ca/publicat/ccdr-rmtc/00pdf/cdr26s3e.pdf>.

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# Appendix B: Provincial Case Definitions for Reportable Diseases

Disease: Hantavirus pulmonary syndrome

## Hantavirus pulmonary syndrome

### 1.0 Provincial Reporting

Confirmed cases of disease

### 2.0 Type of Surveillance

Case-by -case

### 3.0 Case Classification

#### 3.1 Confirmed Case

Laboratory confirmation of infection with clinically compatible signs and symptoms:

- Detection of Immunoglobulin M (IgM) antibodies or a significant (i.e., fourfold or greater) rise in hantavirus-specific Immunoglobulin G (IgG) antibody titres
- OR**
- Detection of hantavirus-specific ribonucleic acid (RNA) in an appropriate clinical specimen (See Section 7.0)
- OR**
- Detection of hantavirus antigen by immunohistochemistry

### 4.0 Laboratory Evidence

#### 4.1 Laboratory Confirmation

Any of the following will constitute a confirmed case of Hantavirus Pulmonary Syndrome (HPS):

- Positive for Hantavirus IgM antibodies
- Significant (i.e., fourfold or greater) rise in Hantavirus IgG antibody titres
- Positive for Hantavirus RNA
- Positive for Hantavirus antigen

#### 4.2 Approved/Validated Tests

- Test for Sin nombre virus IgM and IgG antibodies
- Nucleic acid amplification test (NAT) for Sin nombre virus
- Test for Sin nombre virus antigen

#### 4.3 Indications and Limitations

- N/A

### 5.0 Clinical Evidence

- A febrile illness (Temperature > 38.3° C [101° F] oral) requiring supplemental oxygen
- AND**
- Bilateral diffuse infiltrates (may resemble acute respiratory distress syndrome [ARDS])
- AND**
- Develops within 72 hours of hospitalization in a previously healthy person
- OR**
- Unexplained illness resulting in death plus an autopsy examination demonstrating non-cardiogenic pulmonary edema without an identifiable specific cause of death

## 6.0 ICD Code(s)

ICD 10 Code B33.4

## 7.0 Comments

Because of the difficulty in diagnosing hantavirus pulmonary syndrome (HPS), a section on appropriate specimen collection and submission is included below.

For acute cases:

- 10 ml of clotted blood for serology

If available or when required:

- Formalin fixed tissues at ambient temperature for immunohistochemistry
- Frozen tissues (lung biopsy) for polymerase chain reaction (PCR)

For autopsy specimen:

- All blood and sera samples collected
- Paraffin embedded blocks and formalin fixed tissues for immunohistochemistry
- Frozen tissues for PCR

## 8.0 References

- Acha PN, Szyfres B. Zoonoses and communicable diseases common to man and animals. 3<sup>rd</sup> ed. Volume II. Chlamydioses, Rickettsioses, and Viroses. Washington DC: Pan American Health Organization; 2003.
- National Notifiable Diseases Surveillance System. Case Definitions. [Internet]. Hantavirus; 1996. Atlanta, GA: Centers for Disease Control and Prevention (CDC); 2008. [cited 2009 Feb 12]. Available from <http://www.cdc.gov/ncphi/diss/nndss/casedef/hantaviruscurrent.htm>.
- Heymann D, editor. Control of communicable diseases manual. 18th ed. Washington: American Public Health Association; 2004.
- Ministry of Health and Long-Term Care, Public Health Division. iPHIS manual. Toronto, ON: Queen's Printer for Ontario; 2005.
- Nationally Notifiable Diseases Case Definitions with Canadian Public Health Laboratory Network (CPHLN) and Epidemiologic Group Draft Edits. March 2007. Based on case definitions as written in the: Health Canada. Case definitions for diseases under national surveillance. Can Commun Dis Rep. 2000; 26 Suppl 3:i-iv 1-122. Available from <http://www.phac-aspc.gc.ca/publicat/ccdr-rmtc/00pdf/cdr26s3e.pdf>

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# Appendix B: Provincial Case Definitions for Reportable Diseases

Disease: Hemorrhagic fevers, including: i) Ebola virus disease;  
ii) Marburg virus disease, and iii) Other viral causes

## **Hemorrhagic fevers, including: i) Ebola virus disease; ii) Marburg virus disease; iii) Other viral causes**

### **1.0 Provincial Reporting**

Confirmed, probable and suspect cases of disease

### **2.0 Type of Surveillance**

Case-by-case

### **3.0 Case Classification**

#### **3.1 Confirmed Case**

Clinically compatible signs and symptoms with:

- Detection of virus-specific nucleic acid by reverse-transcriptase polymerase chain detection (RT-PCR) from an appropriate clinical specimen (e.g., blood, urine, throat washings, tissue)

**AND**

Confirmation using at least one of the following:

- Demonstration of virus antigen in tissue (e.g., skin, liver, or spleen) by immunohistochemical or immunofluorescent techniques
- Demonstration of specific Immunoglobulin M (IgM) antibody by enzyme-linked immuno-sorbent assay (ELISA), enzyme immunoassay (EIA), immunofluorescent assay, or Western Blot
- Demonstration of a significant (i.e., fourfold or greater) rise in Immunoglobulin G (IgG) serum antibody by EIA, immunofluorescent assay, or Western Blot
- RT-PCR on an independent target gene and/or independent sample or confirmation through another reference laboratory

**OR**

- Isolation of virus from an appropriate clinical specimen (e.g., blood, tissue, urine specimens, or throat secretions)

#### **3.2 Probable Case**

A case with clinically compatible signs and symptoms and a history within the 3 weeks before onset of fever of the following:

- Travel in a specific area of a country where an outbreak of viral hemorrhagic fever (VHF) has recently occurred

**OR**

- An epidemiologic link with a confirmed or probable case

**OR**

- Direct contact with blood or other body fluids from a confirmed or probable case of VHF

**OR**

- Works in a laboratory that handles VHF virus specimens or in a facility that handles animals with VHF

**OR**

A nucleic acid amplification test (NAT) positive without laboratory confirmation by another approved or validated test (See Section 4.2)

### **3.3 Suspect Case**

Clinically compatible signs and symptoms in the absence of an epidemiologic link to a laboratory-confirmed case or a probable case

## **4.0 Laboratory Evidence**

### **4.1 Laboratory Confirmation**

Any of the following will constitute a confirmed case of Viral Hemorrhagic Fever:

- Positive viral hemorrhagic fever (VHF) culture
- Positive VHF antigen AND positive NAT for VHF
- Positive VHF antigen OR positive NAT for VHF AND positive by one confirmatory method (see below)

### **4.2 Approved/Validated Tests**

- Culture
- NAT
- Antigen detection
- IgM and IgG serology

### **4.3 Indications and Limitations**

- Any testing related to suspected VHF should be carried out under Level 4 containment facilities at the National Microbiology Laboratory

## **5.0 Clinical Evidence**

Viral hemorrhagic fever includes Lassa, Junin, Machupo, Sabia, Guanarito (arenaviruses); Crimean Congo, Rift Valley fever virus (bunyaviruses); Ebola, Marburg (filoviruses), Dengue virus, Yellow fever, Omsk hemorrhagic fever, Kyasanur Forest Disease virus (flaviviruses).

Clinical manifestations are non-specific and vary by agent; patients initially exhibit a non-specific prodrome typically lasting less than 1 week. Onset can be abrupt (filovirus, flavivirus, bunyavirus) or insidious (arenavirus). Symptoms typically include high fever, headache, malaise, weakness, arthralgias, myalgias, irritability, dizziness, nausea, vomiting, abdominal pain, and nonbloody diarrhea. Signs typically include fever, hypotension, shock, relative bradycardia, tachypnea, conjunctivitis, and pharyngitis. Several Viral Hemorrhagic Fevers (VHFs) are associated with cutaneous flushing or a skin rash. Later signs include progressive hemorrhagic diathesis (petechiae, mucous membrane and conjunctival hemorrhage), hematuria, hematemesis, melena, disseminated intravascular coagulation, circulatory shock, and central nervous system dysfunction (delirium, convulsions, cerebellar signs, coma). Differential diagnosis is an important consideration and should include multiple viral and bacterial diseases.

A clinical consultation is necessary for diagnosis

## **6.0 ICD Code(s)**

ICD 10 Code A98.4 - Ebola virus disease  
ICD 10 Code A98.3 - Marburg virus disease  
ICD 10 Code A99 - Other viral causes

## 7.0 Comments

- Contact the PHD of the MOHLTC immediately using the 24 hour emergency line, (416) 212-6361 or (416) 212-6362, even in the event of a suspected case.
- Travel history information is important in the analysis of the epidemiology of haemorrhagic fevers.

## 8.0 References

- Ministry of Health and Long-Term Care, Public Health Division. iPHIS manual. Toronto, ON: Queen's Printer for Ontario; 2005.
- Nationally Notifiable Diseases Case Definitions with Canadian Public Health Laboratory Network (CPHLN) and Epidemiologic Group Draft Edits. March 2007. Based on case definitions as written in the: Health Canada. Case definitions for diseases under national surveillance. Can Commun Dis Rep. 2000; 26 Suppl 3:i-iv 1-122. Available from <http://www.phac-aspc.gc.ca/publicat/ccdr-rmtc/00pdf/cdr26s3e.pdf>.

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# Appendix B: Provincial Case Definitions for Reportable Diseases

Disease: Hepatitis A

## Hepatitis A

### 1.0 Provincial Reporting

Confirmed and probable cases of disease

### 2.0 Type of Surveillance

Case-by-case

### 3.0 Case Classification

#### 3.1 Confirmed Case

Laboratory confirmation of infection, in the absence of recent vaccination, with detection of Immunoglobulin M (IgM) antibody to Hepatitis A virus (anti-HAV),  
**AND:**

- Acute illness with discrete onset of symptoms and jaundice or elevated serum aminotransferase levels

**OR**

- An epidemiologic link to laboratory-confirmed case

#### 3.2 Probable Case

Acute illness in a person with an epidemiologic link to a laboratory-confirmed case

### 4.0 Laboratory Evidence

#### 4.1 Laboratory Confirmation

The following will constitute a confirmed case of Hepatitis A:

- Positive for HAV IgM antibody

#### 4.2 Approved/Validated Tests

- Tests for anti-HAV IgM antibody

#### 4.3 Indications and Limitations

- Anti-HAV IgM results should be repeated in duplicate and should include testing for anti-HAV total antibody. If the anti-HAV total is negative then the initially reactive anti-HAV IgM result should be considered "false positive".
- IgM positive results can be a true positive but reflect a remote infection, as HAV-IgM can remain detectable for years after an acute infection due to trailing IgM or the non-disappearance of anti-HAV IgM after recent infection. Acute/recent infection should be confirmed with clinical history symptoms and by repeat titre after a week or so.

### 5.0 Clinical Evidence

Acute clinical illness is characterized by abrupt fever, malaise, anorexia, nausea and abdominal pain followed by jaundice or elevated aminotransferase levels within a few days.

## 6.0 ICD Code(s)

### 6.1 ICD-10 Code(s)

B15.0 Hepatitis A with hepatic coma

B15.9 Hepatitis A without hepatic coma [Hepatitis A (acute) (viral) NOS]

### 6.2 ICD-9/ICD-9CM Code(s)

070.0 Viral hepatitis A with hepatic coma

070.1 Viral hepatitis A without mention of hepatic coma

## 7.0 Comments

N/A

## 8.0 References

- Heymann D, editor. Control of communicable diseases manual. 18th ed. Washington: American Public Health Association; 2004.
- Ministry of Health and Long-Term Care, Public Health Division. iPHIS manual. Toronto, ON: Queen's Printer for Ontario; 2005.
- Nationally Notifiable Diseases Case Definitions with Canadian Public Health Laboratory Network (CPHLN) and Epidemiologic Group Draft Edits. March 2007. Based on case definitions as written in the: Health Canada. Case definitions for diseases under national surveillance. Can Commun Dis Rep. 2000; 26 Suppl 3:i-iv 1-122. Available from <http://www.phac-aspc.gc.ca/publicat/ccdr-rmtc/00pdf/cdr26s3e.pdf>.

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# Appendix B: Provincial Case Definitions for Reportable Diseases

Disease: Hepatitis B

Revised January, 2012

# Hepatitis B

## 1.0 Provincial Reporting

Confirmed cases of disease

## 2.0 Type of Surveillance

Case-by-case

## 3.0 Case Classification

### 3.1 Confirmed Case (Acute Case)

Laboratory confirmation of infection:

- Detection of Hepatitis B surface antigen (HBsAg)-and Immunoglobulin M (IgM) antibody to Hepatitis B core antigen (anti-HBc) in the context of a compatible clinical history or probable exposure

**OR**

- Loss of HBsAg over 6 months in the context of a compatible clinical history or probable exposure

### 3.2 Chronic Case (Carrier)

Laboratory confirmation of infection:

- Detection of HBsAg with a negative IgM anti-HBc
- OR**
- Presence of HBsAg for over 6 months
- OR**
- Presence of HBV DNA for over 6 months

### 3.3 Probable Case (Acute Case)

- Acute clinically compatible signs and symptoms in a person with an epidemiologic link to a laboratory-confirmed case

**OR**

- Acute clinically compatible signs and symptoms and detection of HBsAg (and anti-Hepatitis A virus [HAV] and Hepatitis C virus [HCV] negative) when the test for IgM antibody to anti-HBc is not available

## 4.0 Laboratory Evidence

### 4.1 Laboratory Confirmation

Any of the following will constitute a confirmed case of Hepatitis B:

Positive for HBsAg confirmed by one or more of the following:

- Positive anti-HBc Immunoglobulin G (IgG)/IgM
- Neutralization of HBsAg with anti-HBs
- Positive for Hepatitis B virus (HBV) deoxyribonucleic acid (DNA)

### 4.2 Approved/Validated Tests

- HBV test for HBsAg
- HBV test for anti-HBc IgG/IgM
- Nucleic acid amplification test (NAT) or hybridization tests for HBV DNA

#### 4.3 Indications and Limitations

- Some chronic cases of hepatitis B can have an acute **exacerbation** of their chronic hepatitis B infection and may develop detectable anti-HBc IgM antibodies.

#### 5.0 Clinical Evidence

A clinical consultation is necessary for diagnosis

#### 6.0 ICD Code(s)

ICD 10 Code B16

#### 7.0 Comments

N/A

#### 8.0 References

- Case Definitions for Communicable Diseases under National Surveillance. [Internet]. November 2009. Can Commun Dis Pre. 2009; 35 Suppl 2:i-11 1-123. Available from <http://www.phac-aspc.gc.ca/publicat/ccdr-rmtc/09pdf/35s2-eng.pdf>
- National Notifiable Diseases Surveillance System. Case Definitions. [Internet]. Hepatitis B, Acute; 2000. Atlanta, GA: Centers for Disease Control and Prevention (CDC); 2008. [cited 2009 Feb 12]. Available from <http://www.cdc.gov/ncphi/diss/nndss/casedef/hepatitisb2000.htm>.
- Heymann D, editor. Control of communicable diseases manual. 18th ed. Washington: American Public Health Association; 2004.
- Ministry of Health and Long-Term Care, Public Health Division. iPHIS manual. Toronto, ON: Queen's Printer for Ontario; 2005.
- Nationally Notifiable Diseases Case Definitions with Canadian Public Health Laboratory Network (CPHLN) and Epidemiologic Group Draft Edits. March 2007. Based on case definitions as written in the: Health Canada. Case definitions for diseases under national surveillance. Can Commun Dis Rep. 2000; 26 Suppl 3:i-iv 1-122. Available from <http://www.phac-aspc.gc.ca/publicat/ccdr-rmtc/00pdf/cdr26s3e.pdf>.



# Appendix B: Provincial Case Definitions for Reportable Diseases

Disease: Hepatitis C

## Hepatitis C

### 1.0 Provincial Reporting

Confirmed cases of disease

### 2.0 Type of Surveillance

Case-by -case

### 3.0 Confirmed Case

#### 3.1 Confirmed Case

Laboratory confirmation of infection with/without symptoms:

- Detection of Hepatitis C virus (HCV) antibodies, (if > 18 months of age)
- OR**
- Detection of Hepatitis C virus ribonucleic acid (RNA)

### 4.0 Laboratory Evidence

#### 4.1 Laboratory Confirmation

Any of the following will constitute a confirmed case of Hepatitis C:

- Positive for anti-HCV with laboratory confirmation
- Positive for HCV RNA

#### 4.2 Approved/Validated Tests

- Anti-HCV line immunoblot assays including recombinant immunoblot assay (RIBA) and line immunoassay (LIA)

#### 4.3 Indications and Limitations

- In immunocompromised cases HCV NAT is recommended, as antibodies may be negative in this population
- HCV antibody testing should not be performed in infants < 18 months of age because of detectable levels of maternal antibody; however, if antibody testing is performed and found to be reactive at 18 months of age, HCV RNA real-time reverse transcription, polymerase chain reaction (RT-PCR) or nucleic acid amplification test (NAT) should be performed to rule out maternal antibody and to confirm viremia.
- Cord blood should not be used because of maternal blood contamination
- Testing for RNA earlier than 4-6 weeks of age is not recommended

### 5.0 Clinical Evidence

A clinical consultation is necessary for diagnosis

### 6.0 ICD Code(s)

ICD 10 Code B18.2

### 7.0 Comments

N/A

## 8.0 References

- National Notifiable Diseases Surveillance System. Case Definitions. [Internet]. Hepatitis C virus infection, acute; 2007. Atlanta, GA: Centers for Disease Control and Prevention (CDC); 2008. [cited 2009 Feb 12]. Available from <http://www.cdc.gov/ncphi/diss/nndss/casedef/hepatitiscacutecurrent.htm>.
- Heymann D, editor. Control of communicable diseases manual. 18th ed. Washington: American Public Health Association; 2004.
- Ministry of Health and Long-Term Care, Public Health Division. iPHIS manual. Toronto, ON: Queen's Printer for Ontario; 2005.
- Nationally Notifiable Diseases Case Definitions with Canadian Public Health Laboratory Network (CPHLN) and Epidemiologic Group Draft Edits. March 2007. Based on case definitions as written in the: Health Canada. Case definitions for diseases under national surveillance. Can Commun Dis Rep. 2000; 26 Suppl 3:i-iv 1-122. Available from <http://www.phac-aspc.gc.ca/publicat/ccdr-rmtc/00pdf/cdr26s3e.pdf>.

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# Appendix B: Provincial Case Definitions for Reportable Diseases

Disease: Hepatitis D (Delta hepatitis)

## Hepatitis D (Delta hepatitis)

### 1.0 Provincial Reporting

Confirmed cases of disease

### 2.0 Type of Surveillance

Case-by-case

### 3.0 Confirmed Case

#### 3.1 Confirmed Case

Clinically compatible signs and symptoms in an individual who has Hepatitis B (see case definition) and with detection of total antibody (i.e., Immunoglobulin M [IgM] and Immunoglobulin G [IgG]) to the Hepatitis D virus (anti-HDV)

### 4.0 Laboratory Evidence

#### 4.1 Laboratory Confirmation

Any of the following will constitute a confirmed case of Hepatitis D:

- Detection of intrahepatic HDV antigen
- Detection of total anti-HDV antibodies by enzyme-linked immuno-sorbent assay (ELISA)
- Co-detection of Hepatitis B surface antigen (HBsAg) or Hepatitis B core antigen (anti-HBc) IgM

#### 4.2 Approved/Validated Tests

- Serologic tests for HDV IgG and IgM

#### 4.3 Indications and Limitations

- Detection of antigen or ribonucleic acid (RNA) in serum is not practical as these tests have not been fully validated

### 5.0 Clinical Evidence

A clinical consultation is necessary for diagnosis

### 6.0 ICD Code(s)

ICD 10 Code B16.1

### 7.0 Comments

N/A

### 8.0 References

- Heymann D, editor. Control of communicable diseases manual. 18th ed. Washington: American Public Health Association; 2004.
- Ministry of Health and Long-Term Care, Public Health Division. iPHIS manual. Toronto, ON: Queen's Printer for Ontario; 2005.

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# Appendix B: Provincial Case Definitions for Reportable Diseases

Disease: Herpes, neonatal

## Herpes, neonatal

### 1.0 Provincial Reporting

Confirmed cases of disease

### 2.0 Type of Surveillance

Case-by-case

### 3.0 Case Classification

#### 3.1 Confirmed Case

Clinically compatible signs and symptoms with detection of herpes simplex virus (HSV) in an infant (most commonly occurs in infants less than or equal to 28 days in age)

### 4.0 Laboratory Evidence

#### 4.1 Laboratory Confirmation

Any of the following will constitute a confirmed case of Herpes:

- Positive herpes simplex virus culture
- Positive for herpes simplex virus nucleic acid

#### 4.2 Approved/Validated Tests

- Standard culture for herpes simplex virus with confirmation
- Nucleic acid amplification test (NAT) for herpes simplex virus

#### 4.3 Indications and Limitations

- N/A

### 5.0 Clinical Evidence

Infants exposed to HSV during birth, as documented by maternal virologic testing or presumed by observation of maternal lesions, should be followed carefully in consultation with a specialist. Clinically, neonatal infection is classified as skin-eye-mouth (SEM), central nervous system (CNS) or disseminated infection. A clinical consultation is necessary for diagnosis.

### 6.0 ICD Code(s)

ICD 10 Code P35.2

### 7.0 Comments

N/A

### 8.0 References

- Public Health Agency of Canada. Canadian guidelines on sexually transmitted infections. Ottawa: Public Health Agency of Canada; 2008. Available from [http://www.phac-aspc.gc.ca/std-mts/sti\\_2006/pdf/Guidelines\\_Eng\\_complete\\_06-26-08.pdf](http://www.phac-aspc.gc.ca/std-mts/sti_2006/pdf/Guidelines_Eng_complete_06-26-08.pdf).
- Centers for Disease Control and Prevention, Workowski KA, Berman SM. Sexually transmitted diseases treatment guidelines, 2006. MMWR Recomm Rep.

2006;55(RR-11):1-94. Available from  
<http://www.cdc.gov/mmwr/preview/mmwrhtml/rr5511a1.htm>.

- Ministry of Health and Long-Term Care, Public Health Division. iPHIS manual. Toronto, ON: Queen's Printer for Ontario; 2005.

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# Appendix B: Provincial Case Definitions for Reportable Diseases

Disease: Influenza

Revised January, 2012

# Influenza

## 1.0 Provincial Reporting

Confirmed cases of disease

## 2.0 Type of Surveillance

Case-by-case

## 3.0 Case Classification

### 3.1 Confirmed Case

Clinically compatible signs and symptoms with:

- Laboratory confirmation by detection or isolation of influenza virus from appropriate clinical specimen/s (e.g., nasopharyngeal/ throat swabs)  
**OR**
- Demonstration of a significant (i.e., fourfold or greater) rise in complement fixation antibody titres to influenza between acute and convalescent sera  
**OR**
- An epidemiologic link to a laboratory-confirmed case<sup>1</sup>  
**OR**
- Detection of influenza-specific ribonucleic acid (RNA)

## 4.0 Laboratory Evidence

### 4.1 Laboratory Confirmation

Any of the following will constitute a confirmed case of influenza:

- Positive influenza virus culture
- Positive for influenza virus antigen
- Significant (i.e., fourfold or greater) rise in influenza Immunoglobulin G (IgG) titre between acute and convalescent sera
- Positive for influenza-specific RNA by nucleic acid amplification test (NAT)

### 4.2 Approved/Validated Tests

- Standard culture for influenza virus
- Influenza direct fluorescent antibody (DFA) antigen test
- Influenza IgG serology tests<sup>2</sup>
- NAT for influenza virus RNA
- Rapid enzyme immunoassay (EIA) test kits

### 4.3 Indications and Limitations

- NAT primers and probes should be validated to detect the current strains of influenza
- A proportion of influenza isolates should be typed for strain identification, as appropriate, for epidemiological, public health and control purposes

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<sup>1</sup> An epidemiologic link to a laboratory-confirmed case applies to institutional outbreaks only

<sup>2</sup> Serology is not offered for clinical testing.

- Antigen testing is indicated only during the influenza season due to low positive predictive value

## 5.0 Clinical Evidence

Clinically compatible signs and symptoms are defined as influenza-like illness (ILI) and are characterized as having a temperature > 38 degrees Celsius and cough and one or more of the following: sore throat, arthralgia, myalgia or prostration. In children under 5 years of age, gastrointestinal symptoms may also be present. In patients less than 5 years or > 65 years fever may not be prominent

## 6.0 ICD Code(s)

### 6.1 ICD-10 Code(s)

J10 Influenza due to identified influenza virus

J10.0 Influenza with pneumonia, influenza virus identified

J10.1 Influenza with other respiratory manifestations, influenza virus identified

J10.8 Influenza with other manifestations, influenza virus identified

### 6.2 ICD-9/ICD-9CM Code(s)

487 Influenza

487.0 Influenza with pneumonia

487.1 Influenza with other respiratory manifestations

487.8 Influenza with other manifestations

## 7.0 Comments

N/A

## 8.0 References

- Provincial Infectious Diseases Advisory Committee. Best practices for prevention of transmission of acute respiratory infection in all health care settings (revised edition). Toronto: Queen's Printer for Ontario; 2010. Available from <http://www.oahpp.ca/resources/documents/pidac/RPAP%20Annex%20B%20Prevention%20Transmission%20Acute%20Respiratory%20Infection.pdf>
- Ministry of Health and Long-Term Care, Public Health Division. iPHIS manual. Toronto, ON: Queen's Printer for Ontario; 2005.
- Nationally Notifiable Diseases Case Definitions with Canadian Public Health Laboratory Network (CPHLN) and Epidemiologic Group Draft Edits. March 2007. Based on case definitions as written in the: Health Canada. Case definitions for diseases under national surveillance. Can Commun Dis Rep. 2000; 26 Suppl 3:i-iv 1-122. Available from <http://www.phac-aspc.gc.ca/publicat/ccdr-rmtc/00pdf/cdr26s3e.pdf>.



# Appendix B: Provincial Case Definitions for Reportable Diseases

Disease: Lassa Fever

## Lassa Fever

### 1.0 Provincial Reporting

Confirmed, probable and suspect cases of disease

### 2.0 Type of Surveillance

Case-by-case

### 3.0 Case Classification

#### 3.1 Confirmed Case

Clinically compatible signs and symptoms with:

- Detection of virus-specific nucleic acid by reverse-transcriptase polymerase chain reaction (RT-PCR) from an appropriate clinical specimen (e.g., blood, urine, throat washings, tissue)

**AND**

Confirmation using at least one of the following:

- Demonstration of virus antigen in tissue (e.g., skin, liver, or spleen) by immunohistochemical or immunofluorescent techniques
- Demonstration of specific Immunoglobulin M (IgM) antibody by enzyme-linked immuno-sorbent assay (ELISA), enzyme immunoassay (EIA), immunofluorescent assay, or Western Blot
- Demonstration of a significant (i.e., fourfold or greater) rise in Immunoglobulin G (IgG) serum antibody by EIA, immunofluorescent assay, or Western Blot
- RT-PCR on an independent target gene and/or independent sample or confirmation through another reference laboratory

**OR**

- Isolation of virus from an appropriate clinical specimen (e.g., blood, tissue, urine specimens, throat secretions)

#### 3.2 Probable Case

A case with clinically compatible signs and symptoms and a history within the 3 weeks before onset of fever of the following:

- Travel in a specific area of a country where an outbreak of lassa fever has recently occurred

**OR**

- An epidemiologic link with a confirmed or probable case

**OR**

- Direct contact with blood or other body fluids from a confirmed or probable case of lassa fever

**OR**

- Works in a laboratory that handles lassa fever virus specimens or in a facility that handles animals with lassa fever

**OR**

A nucleic acid amplification test (NAT) positive without laboratory confirmation by another approved or validated test (See Section 4.2)

### 3.3 Suspect Case

Clinically compatible signs and symptoms in the absence of an epidemiologic link to a laboratory-confirmed case or a probable case

## 4.0 Laboratory Evidence

### 4.1 Laboratory Confirmation

Any of the following will constitute a confirmed case of Lassa fever:

- Positive viral hemorrhagic fever (VHF) culture
- Positive VHF antigen AND positive NAT for VHF
- Positive VHF antigen OR positive NAT for VHF AND positive by one confirmatory method listed below (See Section 4.2)

### 4.2 Approved/Validated Tests

- Culture
- NAT
- Antigen detection
- IgM and IgG serology

### 4.3 Indications and Limitations

- Any testing related to suspected lassa fever should be carried out under Level 4 containment facilities at the National Microbiology Laboratory

## 5.0 Clinical Evidence

Clinically compatible signs and symptoms are non-specific and vary by agent; patients initially exhibit a non-specific prodrome typically lasting less than 1 week. Onset can be abrupt (filovirus, flavivirus, bunyavirus) or insidious (arenavirus). Symptoms typically include high fever, headache, malaise, weakness, arthralgias, myalgias, irritability, dizziness, nausea, vomiting, abdominal pain, and nonbloody diarrhea. Signs typically include fever, hypotension, shock, relative bradycardia, tachypnea, conjunctivitis, and pharyngitis. It is associated with cutaneous flushing or a skin rash. Later signs include progressive hemorrhagic diathesis (petechiae, mucous membrane and conjunctival hemorrhage), hematuria, hematemesis, melena, disseminated intravascular coagulation, circulatory shock, and central nervous system dysfunction (delirium, convulsions, cerebellar signs, coma). Differential diagnosis is an important consideration and should include multiple viral and bacterial diseases. A clinical consultation is necessary for diagnosis

## 6.0 ICD Code(s)

ICD 10 Code A96.2

## 7.0 Comments

- Contact the PHD of the MOHLTC immediately using the 24 hour emergency line, (416) 212-6361 or (416) 212-6362, even in the event of a suspected case.
- Travel history information is important in the analysis of the epidemiology of Lassa Fever.

## 8.0 References

- Heymann D, editor. Control of communicable diseases manual. 18th ed. Washington: American Public Health Association; 2004.
- Ministry of Health and Long-Term Care, Public Health Division. iPHIS manual. Toronto, ON: Queen's Printer for Ontario; 2005.

- Nationally Notifiable Diseases Case Definitions with Canadian Public Health Laboratory Network (CPHLN) and Epidemiologic Group Draft Edits. March 2007. Based on case definitions as written in the: Health Canada. Case definitions for diseases under national surveillance. Can Commun Dis Rep. 2000; 26 Suppl 3:i-iv 1-122. Available from <http://www.phac-aspc.gc.ca/publicat/ccdr-rmtc/00pdf/cdr26s3e.pdf>.

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# Appendix B: Provincial Case Definitions for Reportable Diseases

Disease: Legionellosis

Revised January, 2012

# Legionellosis

## 1.0 Provincial Reporting

Confirmed and probable cases of disease

## 2.0 Type of Surveillance

Case-by-case

## 3.0 Case Classification

### 3.1 Confirmed Case

Laboratory confirmation of infection with clinically compatible signs and symptoms:

- Isolation of *Legionella* spp. or detection of the antigen from appropriate clinical specimens (e.g., lung tissue, pleural fluid, sputum)  
**OR**
- A significant (i.e., fourfold or greater) rise in *Legionella* spp. total antibody titre between acute and convalescent sera  
**OR**
- Single specimen or standing total antibody titre  $\geq 1:256$  against *Legionella* spp.  
**OR**
- Demonstration of *L. pneumophila* serogroup 1 antigen in urine

### 3.2 Probable Case

Clinically compatible signs and symptoms with:

- Demonstration of *Legionella* spp. DNA by nucleic acid amplification test (NAT), such as PCR
- 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

## 4.0 Laboratory Evidence

### 4.1 Laboratory Confirmation

Any of the following will constitute a confirmed case of Legionellosis:

- Positive *Legionella* spp. culture
- A significant (i.e., fourfold or greater) rise in *Legionella* spp total antibody titre between acute and convalescent sera

### 4.2 Approved/Validated Tests

- Standard culture for *Legionella* spp. with confirmation
- *L. pneumophila* serum antibody tests
- *L. pneumophila* serogroup 1 urine antigen test
- NAT for *Legionella* spp.
- Direct fluorescent antibody staining

### 4.3 Indications and Limitations

- Standard culture for *L. pneumophila*

- All *Legionella* spp. [as well as former members of the genus *Legionella* which taxonomically belong to other genera (*Tatlockia micdadei*, *Tatlockia maceachernii*, *Fluoribacter bozemanae*, *Fluoribacter dumoffii*, and *Fluoribacter gormanii*)], are considered to be pathogenic although they are implicated much less frequently than *L. pneumophila*.
- Positive specimens by urine antigen tests for the detection of *Legionella pneumophila* serogroup 1 are considered presumptive. When possible, patients should also be tested through accepted laboratory tests as outlined in section 4.2.

## 5.0 Clinical Evidence

Legionellosis is comprised of two distinct illnesses:

- Legionnaires' Disease - characterized by anorexia, malaise, myalgia, headache, productive cough, temperature > 39 degrees Celsius, pneumonia, confusion, chills, nausea, diarrhea;
- Pontiac Fever – A milder form of the illness without pneumonia. It is characterized by anorexia, malaise, myalgia, headache, productive cough, temperature > 37.5 degrees Celsius

## 6.0 ICD Code(s)

### 6.1 ICD-10 Code(s)

A48.1 Legionnaire's Disease  
A48.2 Pontiac Fever

### 6.2 ICD-9/ICD-9CM Code(s)

482.8 Legionnaire's Disease

## 7.0 Comments

N/A

## 8.0 References

- Ministry of Health and Long-Term Care, Public Health Division. iPHIS manual. Toronto, ON: Queen's Printer for Ontario; 2005.
- Nationally Notifiable Diseases Case Definitions with Canadian Public Health Laboratory Network (CPHLN) and Epidemiologic Group Draft Edits. March 2007. Based on case definitions as written in the: Health Canada. Case definitions for diseases under national surveillance. Can Commun Dis Rep. 2000; 26 Suppl 3:i-iv 1-122. Available from <http://www.phac-aspc.gc.ca/publicat/ccdr-rmtc/00pdf/cdr26s3e.pdf>.



# Appendix B: Provincial Case Definitions for Reportable Diseases

Disease: Leprosy

# Leprosy

## 1.0 Provincial Reporting

Confirmed and probable cases of disease

## 2.0 Type of Surveillance

Case-by -case

## 3.0 Confirmed Case

### 3.1 Confirmed Case

Laboratory confirmation of infection with clinically compatible signs and symptoms:

- Demonstration of characteristic acid fast bacilli in split skin smears and biopsies prepared from the ear lobe or other relevant sites (e.g., skin, tissue)

**OR**

- Histopathological report from skin or nerve biopsy compatible with leprosy

**OR**

Clinically compatible signs and symptoms with detection of *Mycobacterium leprae* DNA in biopsy material

### 3.2 Probable Case

- Clinically compatible signs and symptoms with an epidemiologic link to an endemic region or to a laboratory-confirmed case

## 4.0 Laboratory Evidence

### 4.1 Laboratory Confirmation

Any of the following will constitute a confirmed case of Leprosy:

- Positive Acid Fast stain with typical morphology for *M. leprae*
- Histopathological report from skin or nerve biopsy compatible with leprosy
- Nucleic acid amplification test (NAT) for *M. leprae*

### 4.2 Approved/Validated Tests

- NAT for *M. leprae*

### 4.3 Indications and Limitations

- N/A

## 5.0 Clinical Evidence

A clinical consultation is necessary for diagnosis

## 6.0 ICD Code(s)

ICD 10 Code A30

## 7.0 Comments

Requests for testing of biopsy samples should be forwarded to the Public Health Laboratories of the Ontario Agency for Health Protection and Promotion.

## 8.0 References

- National Notifiable Diseases Surveillance System. Case Definitions. [Internet]. Hansen's Disease (Leprosy) (*Mycobacterium leprae*); 1997. Atlanta, GA: Centers for Disease Control and Prevention (CDC); 2008. [cited 2009 Feb 12]. Available from [http://www.cdc.gov/ncphi/diss/nndss/casedef/hansen\\_disease\\_current.htm](http://www.cdc.gov/ncphi/diss/nndss/casedef/hansen_disease_current.htm).
- Ministry of Health and Long-Term Care, Public Health Division. iPHIS manual. Toronto, ON: Queen's Printer for Ontario; 2005.
- Nationally Notifiable Diseases Case Definitions with Canadian Public Health Laboratory Network (CPHLN) and Epidemiologic Group Draft Edits. March 2007. Based on case definitions as written in the: Health Canada. Case definitions for diseases under national surveillance. Can Commun Dis Rep. 2000; 26 Suppl 3:i-iv 1-122. Available from <http://www.phac-aspc.gc.ca/publicat/ccdr-rmtc/00pdf/cdr26s3e.pdf>.

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# Appendix B: Provincial Case Definitions for Reportable Diseases

Disease: Listeriosis

## Listeriosis

### 1.0 Provincial Reporting

Confirmed and probable cases of disease

### 2.0 Type of Surveillance

Case-by-case

### 3.0 Case Classification

#### 3.1 Confirmed Case

Laboratory confirmation of infection, with clinically compatible signs and symptoms, with the isolation of *Listeria monocytogenes* from a site which is normally sterile (e.g., blood cerebrospinal fluid [CSF] or, less commonly, joint, pleural, pericardial fluid)

#### 3.2 Probable Case

Clinically compatible signs and symptoms in a person with an epidemiologic link to a laboratory-confirmed case or to a confirmed source (e.g., contaminated milk, soft cheeses, ready-to-eat meats)

### 4.0 Laboratory Evidence

#### 4.1 Laboratory Confirmation

Any of the following will constitute a confirmed case of Listeriosis:

- Isolation of *L. monocytogenes* from a normally sterile site (e.g., blood, CSF or, less commonly, joint, pleural, pericardial fluid)
- In the setting of miscarriage or stillbirth, isolation of *L. monocytogenes* from placental or fetal tissue

#### 4.2 Approved/Validated Tests

- Bacteriological ID from the organism. Samples are then sent to the National Microbiology Laboratory (NML) for typing.

#### 4.3 Indications and Limitations

- No serology testing available through the Public Health Laboratories of the Ontario Agency for Health Protection and Promotion.

### 5.0 Clinical Evidence

Clinically compatible signs and symptoms are characterized by meningitis or bacteremia; infection during pregnancy may result in fetal loss through miscarriage or stillbirth, or neonatal meningitis or bacteremia. Pregnant women may experience mild symptoms.

### 6.0 ICD Code(s)

#### 6.1 ICD-10 Code(s)

A32 Listeriosis (*includes* listerial foodborne infection; *excludes* neonatal (disseminated) listeriosis P37.2)  
A32.0 Cutaneous listeriosis

- A32.1+ Listerial meningitis and meningoen­cephalitis (Listerial: meningitis (G01\*); meningoen­cephalitis (G05.0\*))
- A32.7 Listerial septicaemia
- A32.8 Other forms of listeriosis (Listerial: cerebral arteritis+ (I68.1\*); endocarditis+ (I39.8\*), Oculoglandular listeriosis)
- A32.9 Listeriosis, unspecified

## 6.2 ICD-9/ICD-9CM Code(s)

- 027.0 Listeriosis (excluding congenital listeriosis (771.2))
  - Infection by *Listeria monocytogenes*
  - Septicemia by *Listeria monocytogenes*
  - Use additional code to identify manifestations, as meningitis (320.7)

## 7.0 Comments

In an outbreak situation, report confirmed cases of the diarrheal form of *Listeria monocytogenes* (isolated in stool). Sporadic cases of the diarrheal form of listeriosis are not reportable

## 8.0 References

- Acha PN, Szyfres B. Zoonoses and communicable diseases common to man and animals. 3<sup>rd</sup> ed. Volume I. Bacterioses and mycoses. Washington DC: Pan American Health Organization; 2003.
- National Notifiable Diseases Surveillance System. Case Definitions. [Internet]. Listeriosis; 1999. Atlanta, GA: Centers for Disease Control and Prevention (CDC); 2008. [cited 2009 Feb 12]. Available from [http://www.cdc.gov/ncphi/diss/nndss/casedef/listeriosis\\_current.htm](http://www.cdc.gov/ncphi/diss/nndss/casedef/listeriosis_current.htm).
- Heymann D, editor. Control of communicable diseases manual. 18th ed. Washington: American Public Health Association; 2004.
- Ministry of Health and Long-Term Care, Public Health Division. iPHIS manual. Toronto, ON: Queen’s Printer for Ontario; 2005.
- Nationally Notifiable Diseases Case Definitions with Canadian Public Health Laboratory Network (CPHLN) and Epidemiologic Group Draft Edits. March 2007. Based on case definitions as written in the: Health Canada. Case definitions for diseases under national surveillance. Can Commun Dis Rep. 2000; 26 Suppl 3:i-iv 1-122. Available from <http://www.phac-aspc.gc.ca/publicat/ccdr-rmtc/00pdf/cdr26s3e.pdf>.

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# Appendix B: Provincial Case Definitions for Reportable Diseases

Disease: Lyme Disease

## Lyme Disease

### 1.0 Provincial Reporting

Confirmed and probable cases of disease

### 2.0 Type of Surveillance

Case-by-case

### 3.0 Case Classification

#### 3.1 Confirmed case

- Erythema migrans (EM)<sup>1</sup> with laboratory confirmation by polymerase chain reaction (PCR)<sup>2</sup> or culture<sup>3</sup>  
**OR**
- EM with laboratory support by serological methods<sup>2</sup>, and a history of residence in, or visit to, an endemic area<sup>4</sup>  
**OR**
- Objective symptoms of disseminated Lyme disease<sup>5</sup> with laboratory confirmation by PCR or culture  
**OR**
- Objective symptoms of disseminated Lyme disease with laboratory support by serological methods, and a history of residence in, or visit to, an endemic area

#### 3.2 Probable case

- EM with laboratory support by serological methods but with no history of residence in, or visit to, an endemic area  
**OR**
- Objective symptoms of disseminated Lyme disease with laboratory support by serological methods, but with no history of residence in, or visit to an endemic area  
**OR**
- EM without laboratory confirmation, but with history of residence in, or visit to, an endemic area

### 4.0 Laboratory Evidence

#### 4.1 Laboratory Confirmation

Any of the following will constitute a confirmed case of Lyme disease:

- Isolation of *B. burgdorferi* from an appropriate clinical specimen
- Positive nucleic acid amplification test (NAT) for *B. burgdorferi*
- Serological evidence using the two-tier enzyme-linked immuno-sorbent assay (ELISA) and Western Blot criteria  
(Serological evidence alone is not confirmatory: positive predictive value is greater provided that the patient has EM or objective symptoms of disseminated Lyme disease, and has had contact with a region endemic for Lyme disease.)

#### 4.2 Approved/Validated Tests

- Standard culture for *B. burgdorferi*

- Commercial *B. burgdorferi* Immunoglobulin M (IgM) and Immunoglobulin G (IgG) tests (ELISA and Western Blot)
- NAT for *B. burgdorferi*

#### 4.3 Indications and Limitations

- Only serum samples are acceptable for serology
- Initial negative serological tests in patients with skin lesions suggestive of EM should have testing repeated after four weeks
- Sera that are screened negative for antibodies using an EIA should not be subjected to Western blot testing
- EIA tests presently in use lack the specificity necessary to base a diagnosis of Lyme disease on an unconfirmed result
- The possibility of false-positive Western blot results should not be ignored
- When patients are treated very early in the course of illness, antibodies may not develop

#### 5.0 Clinical Evidence

- 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. Secondary lesions may also occur.
- 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<sup>6</sup>
- For purposes of surveillance, late manifestations include any of the following when an alternate explanation is not found:
  - Nervous system: Any of the following, alone or in combination: lymphocytic meningitis; cranial neuritis, particularly facial palsy (may be bilateral); radiculoneuropathy; or, rarely, encephalomyelitis. Headache, fatigue, paresthesia, or mildly stiff neck alone are not criteria for neurologic involvement.
  - 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.
  - 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.

#### 6.0 ICD Code(s)

ICD 10 Code A69.2

## 7.0 Comments

<sup>1</sup> Erythema migrans is a pathognomonic sign of Lyme disease. It 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 round or oval expanding erythematous area. Some lesions are homogeneously erythematous, whereas others have prominent central clearing or a distinctive target-like appearance. A single primary lesion must reach  $\geq 5$  cm in size across its largest diameter. On the lower extremities, the lesion may be partially purpuric. EM represents a response to the bacterium as it spreads intradermally from the site of the infecting tick bite. It appears 1-2 weeks (range 3-30 days) after infection and persists for up to 8 weeks, by which time the bacterium leaves the skin and disseminates haematogenously. An erythematous skin lesion that presents while a tick vector is still attached or which has developed within 48 hours of detachment is most likely a tick bite hypersensitivity reaction (i.e., a non-infectious process), rather than erythema migrans. Tick bite hypersensitivity reactions are usually  $< 5$  cm in largest diameter, sometimes have an urticarial appearance, and typically begin to disappear within 24–48 hours. Signs of acute or chronic inflammation are not prominent. There is usually little pain, itching, swelling, scaling, exudation or crusting, erosion or ulceration, except that some inflammation associated with the tick bite itself may be present at the very centre of the lesion.

<sup>2</sup> PCR and serological methods on cerebrospinal fluid (CSF) are investigational only. The role of PCR (or more appropriately NAT) testing should be limited to CSF or tissue samples as there is limited data to support its use on blood and/or urine samples.

<sup>3</sup> Culturing for *B. burgdorferi* is a low-yield procedure and is not encouraged; if performed, it should be done only on biopsies from EM lesions and synovial or spinal fluid.

<sup>4</sup> An endemic area is defined here as a census subdivision in which a reproducing population of *Ixodes scapularis* or *Ixodes pacificus* tick vectors is known to occur, which has been demonstrated by molecular methods to support transmission of *B. burgdorferi* at that site.

<sup>5</sup> Symptoms of disseminated Lyme disease are those objective symptoms as described in the 2006 clinical practice guidelines of the Infectious Diseases Society of America. Other symptoms that are, or have been suggested to be associated with Lyme disease (including those of so-called 'chronic' Lyme disease and post Lyme disease syndromes) are considered too non-specific to define cases for surveillance purposes, whether or not they may be caused by *B. burgdorferi* infection.

<sup>6</sup> Because available serological screening tests have limitations to their specificity, screening of patients with non-specific subjective symptoms is strongly discouraged. Patients should be made aware that antibody testing is subject to false-positive results, and that a positive test in the absence of objective findings and credible exposure histories usually represent false-positive results.

## 8.0 References

- Canadian Public Health Laboratory Network. The laboratory diagnosis of Lyme borreliosis: Guidelines from the Canadian Public Health Laboratory Network. *Can J Infect Dis Med Microbiol.* 2007 ;18(2):145-8.
- Ministry of Health and Long-Term Care, Public Health Division. iPHIS manual. Toronto, ON: Queen's Printer for Ontario; 2005.

- Nationally Notifiable Diseases Case Definitions with Canadian Public Health Laboratory Network (CPHLN) and Epidemiologic Group Draft Edits. March 2007. Based on case definitions as written in the: Health Canada. Case definitions for diseases under national surveillance. Can Commun Dis Rep. 2000; 26 Suppl 3:i-iv 1-122. Available from <http://www.phac-aspc.gc.ca/publicat/ccdr-rmtc/00pdf/cdr26s3e.pdf>.
- Wormser GP, Dattwyler RJ, Shapiro ED, Halperin JJ, Steere AC, Klempner MS, et al. The clinical assessment, treatment, and prevention of Lyme disease, human granulocytic anaplasmosis, and babesiosis: clinical practice guidelines by the Infectious Diseases Society of America. Clin Infect Dis. 2006 ;43(9):1089-134. Erratum in: Clin Infect Dis. 2007 ;45(7):941.

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# Appendix B: Provincial Case Definitions for Reportable Diseases

Disease: Malaria

## Malaria

### 1.0 Provincial Reporting

Confirmed and probable cases of disease

### 2.0 Type of Surveillance

Case-by-case

### 3.0 Case Classification

#### 3.1 Confirmed Case

Laboratory confirmation of infection with or without clinically compatible signs and symptoms:

- Demonstration of *Plasmodium* sp. in a blood smear/film (thick and thin)

#### 3.2 Probable Case

Laboratory confirmation of infection with or without clinically compatible signs and symptoms:

- Detection of *Plasmodium* sp. antigen in an appropriate clinical specimen (e.g., blood)

### 4.0 Laboratory Evidence

#### 4.1 Laboratory Confirmation

Any of the following will constitute a confirmed case of Malaria:

- Positive for *Plasmodium* sp. in blood smears

#### 4.2 Approved/Validated Tests

- Appropriate staining methodology for *Plasmodium* in blood smears
- Tests for *Plasmodium* specific antigen
- Nucleic acid amplification test (NAT) for *Plasmodium* sp.

#### 4.3 Indications and Limitations

- Microscopy is usually adequate but not when the parasite is scarce in early infections or after treatment

### 5.0 Clinical Evidence

Clinically compatible 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.

### 6.0 ICD Code(s)

ICD 10 Code B54

## 7.0 Comments

### Case Reporting

- A case is counted if it is the individual's first attack of malaria in Canada, regardless of whether or not she/he has experienced previous attacks of malaria outside the country.
- A subsequent attack in the same person caused by a different *Plasmodium* species is counted as an additional case.
- A repeat attack by the same species is not counted as a new case unless the person has traveled to a malaria-endemic area since the previous attack.

## 8.0 References

- Ministry of Health and Long-Term Care, Public Health Division. iPHIS manual. Toronto, ON: Queen's Printer for Ontario; 2005.
- Nationally Notifiable Diseases Case Definitions with Canadian Public Health Laboratory Network (CPHLN) and Epidemiologic Group Draft Edits. March 2007. Based on case definitions as written in the: Health Canada. Case definitions for diseases under national surveillance. Can Commun Dis Rep. 2000; 26 Suppl 3:i-iv 1-122. Available from <http://www.phac-aspc.gc.ca/publicat/ccdr-rmtc/00pdf/cdr26s3e.pdf>.

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# Appendix B: Provincial Case Definitions for Reportable Diseases

Disease: Measles

## Measles

### 1.0 Provincial Reporting

Confirmed and probable cases of disease

### 2.0 Type of Surveillance

Case-by-case

### 3.0 Case Classification

#### 3.1 Confirmed Case

Laboratory confirmation of infection with clinically compatible signs and symptoms in the absence of recent immunization with measles-containing vaccine:

- Isolation of measles virus from an appropriate clinical specimen (e.g., nasopharyngeal swab/aspirate/wash and urine)  
**OR**
- Detection of measles virus ribonucleic acid (RNA) from an appropriate clinical specimen  
**OR**
- Seroconversion or a significant (i.e., fourfold or greater) rise in measles Immunoglobulin G (IgG) titre by any standard serologic assay between acute and convalescent sera  
**OR**
- Positive serologic test for measles Immunoglobulin M (IgM) antibody using a recommended assay in a person who is either epidemiologically linked to a laboratory-confirmed case or has recently travelled to an area of known measles activity

**OR**

Clinically compatible signs and symptoms in a person with an epidemiologic link (i.e., close contact – See Section 7.0) to a laboratory-confirmed case

#### 3.2 Probable Case

- Clinically compatible signs and symptoms in the absence of appropriate laboratory tests and in the absence of an epidemiologic link to a laboratory-confirmed case  
**OR**
- Clinically compatible signs and symptoms in a person with recent travel to an area of known measles activity

### 4.0 Laboratory Evidence

#### 4.1 Laboratory Confirmation

Any of the following will constitute a confirmed case of Measles:

- Positive measles virus culture
- Positive for wild measles virus RNA by direct nucleic acid amplification test (NAT)
- Positive for measles IgM antibody (with an epidemiologic link)

- Seroconversion or a significant (i.e., fourfold or greater) rise in measles IgG titre between acute and convalescent sera
- Positive for measles virus RNA by direct nucleic acid amplification test (NAT)

#### **4.2 Approved/Validated Tests**

- Commercial tests for measles IgM and IgG by enzyme immunoassay (EIA)
- NAT for measles virus RNA
- Consult with laboratory with regards to testing and appropriate specimens

#### **4.3 Indications and Limitations**

- Measles IgM and IgG serology may be negative if blood is collected very early in infection; if measles is still suspected, the test can be repeated no less than 3 days after the acute sample.
- IgM serology has the potential for false positive findings. Further confirmation (IgG serology – paired sera - or measles virus isolation or detection of measles virus RNA) is required in cases specifically where there is no established epidemiological link.
- Isolates should be obtained on all persons suspected of having measles for molecular epidemiological analysis
- Specimens for isolation or RNA detection include nasopharyngeal or throat swab collected no later than 4 days after onset of rash or urine collected within 7 days of rash onset. Consult with laboratory with regards to testing and appropriate specimens

#### **5.0 Clinical Evidence**

Clinically compatible signs and symptoms are characterized by all of the following:

- Fever  $\geq$  38.3 degrees Celsius (oral) and
- Cough, coryza or conjunctivitis followed by
- Generalized maculopapular rash for at least three days

#### **6.0 ICD Code(s)**

##### **6.1 ICD-10 Code(s)**

055 Measles

##### **6.2 ICD-9/ICD-9CM Code(s)**

B05 Measles

#### **7.0 Comments**

Close contacts are persons who had airborne exposure in an enclosed setting or direct exposure to the measles case during the period of communicability (e.g., household, sexual, classroom, shared workspace and social [small gatherings] contacts)

##### **Note about testing for Subacute Sclerosing Panencephalitis (SSPE):**

High titres of measles specific antibodies in sera and cerebrospinal fluid (CSF). Measles RNA can be detected in brain tissue.

#### **8.0 References**

- Ministry of Health and Long-Term Care, Public Health Division. iPHIS manual. Toronto, ON: Queen's Printer for Ontario; 2005.

- Nationally Notifiable Diseases Case Definitions with Canadian Public Health Laboratory Network (CPHLN) and Epidemiologic Group Draft Edits. March 2007. Based on case definitions as written in the: Health Canada. Case definitions for diseases under national surveillance. Can Commun Dis Rep. 2000; 26 Suppl 3:iv 1-122. Available from <http://www.phac-aspc.gc.ca/publicat/ccdr-rmtc/00pdf/cdr26s3e.pdf>.

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# Appendix B: Provincial Case Definitions for Reportable Diseases

Disease: Meningitis, acute: i) bacterial; ii) viral, and iii) other

## **Meningitis, acute: i) bacterial; ii) viral, and iii) other**

### **1.0 Provincial Reporting**

Confirmed and probable cases of disease

### **2.0 Type of Surveillance**

Case-by-case

### **3.0 Case Classification**

#### **3.1 Confirmed Case**

Clinically compatible signs and symptoms of meningitis with:

- Isolation of an organism (i.e., bacterial, viral or other) from an appropriate clinical site (e.g., cerebrospinal fluid [CSF], blood)  
**OR**
- Detection of antigen (i.e., bacterial, viral or other) from an appropriate clinical site (e.g., CSF, blood)  
**OR**
- Detection of nucleic acid (i.e., bacterial, viral or other) from an appropriate clinical site (e.g., CSF, blood)  
**OR**
- Serologic confirmation of infection with an organism known to cause meningitis

#### **3.2 Probable Case**

Clinically compatible signs and symptoms of meningitis in the absence of laboratory confirmation of a causative organism

### **4.0 Laboratory Evidence**

Given the variability of etiological organisms, consult with laboratory about appropriate specimens and testing methodologies

### **5.0 Clinical Evidence**

Clinically compatible signs and symptoms are characterized by fever, headache, stiff neck, and pleocytosis.

### **6.0 ICD Code(s)**

#### **6.1 ICD 10 Code**

G01 Bacterial

#### **6.2 ICD 10 Code**

G02.0 Viral

#### **6.3 ICD 10 Code**

G03.9 Other causes

### **7.0 Comments**

#### **Exclusionary Criteria for Meeting the Case Definition**

Meningitis due to *Haemophilus influenzae* type b, *Neisseria meningitidis*, *Streptococcus*

*pneumoniae* or *Listeria monocytogenes* should be reported under the corresponding diseases.

## 8.0 References

- National Notifiable Diseases Surveillance System. Case Definitions. [Internet]. Meningococcal Disease; 2005. Atlanta, GA: Centers for Disease Control and Prevention (CDC); 2008. [cited 2009 Feb 12]. Available from <http://www.cdc.gov/ncphi/diss/nndss/casedef/meningococcalcurrent.htm>
- Ministry of Health and Long-Term Care, Public Health Division. iPHIS manual. Toronto, ON: Queen's Printer for Ontario; 2005.

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# Appendix B: Provincial Case Definitions for Reportable Diseases

Disease: Meningococcal disease, invasive

## Meningococcal disease, invasive

### 1.0 Provincial Reporting

Confirmed and probable cases of disease

### 2.0 Type of Surveillance

Case-by case

### 3.0 Case Classification

#### 3.1 Confirmed Case

Laboratory confirmation of infection with invasive disease (See Section 5.0):

- Isolation of *Neisseria meningitidis* from a normally sterile site (e.g., blood, cerebrospinal fluid [CSF], joint, pleural or pericardial fluid)
- OR**
- Detection of *N. meningitidis* deoxyribonucleic acid (DNA) by a validated nucleic acid amplification test (NAT) from a normally sterile site

#### 3.2 Probable Case

Invasive disease with purpura fulminans or petechiae in the absence of a positive blood culture and no apparent cause with demonstration of *N. meningitidis* antigen in the CSF

### 4.0 Laboratory Evidence

#### 4.1 Laboratory Confirmation

Any of the following will constitute a confirmed case of invasive Meningococcal disease:

- Positive culture
- Positive NAT for *N. meningitidis*

#### 4.2 Approved/Validated Tests

- Standard culture
- NAT for *N. meningitidis*
- Consult with laboratory about appropriate tests and specimens

#### 4.3 Indications and Limitations

- Detection of *N. meningitidis* antigen does not allow determination of serogroup
- Isolation from non-routine specimens (joint, pleural, or pericardial fluid) may also be performed, but the microbiologist at the Public Health Laboratories of the Ontario Agency for Health Protection and Promotion (OAHP) should be contacted before these specimens are sent.

### 5.0 Clinical Evidence

Invasive meningococcal disease usually manifests itself as meningitis and/or meningococcaemia, although other manifestations may be observed (e.g., septic arthritis pneumonia with bacteremia). Invasive disease may progress rapidly to purpura fulminans, shock and death.

## 6.0 ICD Code(s)

ICD 10 Code A39

## 7.0 Comments

- Isolates should be sent to the Public Health Laboratories of the OAHPP for serogroup determination and to the National Microbiology Laboratory (NML) for further characterization.
- Determination of serogroup from a sterile site isolate and further characterization by a reference laboratory are important in monitoring changes in disease epidemiology, including the impact of vaccination programs, potential serogroup replacement, and antibiotic resistance.

## 8.0 References

- National Notifiable Diseases Surveillance System. Case Definitions. [Internet]. Meningococcal Disease (*Neisseria meningitidis*); 2005. Atlanta, GA: Centers for Disease Control and Prevention (CDC); 2008. [cited 2009 Feb 12]. Available from <http://www.cdc.gov/ncphi/diss/nndss/casedef/meningococcalcurrent.htm>.
- Ministry of Health and Long-Term Care, Public Health Division. iPHIS manual. Toronto, ON: Queen's Printer for Ontario; 2005.
- Nationally Notifiable Diseases Case Definitions with Canadian Public Health Laboratory Network (CPHLN) and Epidemiologic Group Draft Edits. March 2007. Based on case definitions as written in the: Health Canada. Case definitions for diseases under national surveillance. Can Commun Dis Rep. 2000; 26 Suppl 3:iv 1-122. Available from <http://www.phac-aspc.gc.ca/publicat/ccdr-rmtc/00pdf/cdr26s3e.pdf>.

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# Appendix B: Provincial Case Definitions for Reportable Diseases

Disease: Mumps

## Mumps

### 1.0 Provincial Reporting

Confirmed and probable cases of disease

### 2.0 Type of Surveillance

Case-by-case

### 3.0 Case Classification

#### 3.1 Confirmed Case

Laboratory confirmation of infection with clinically compatible signs and symptoms in the absence of recent immunization with mumps-containing vaccine:

- Isolation of mumps virus from an appropriate clinical specimen (e.g., buccal swab or collection of saliva from the oral cavity and urine sample)  
**OR**
- Detection of mumps virus ribonucleic acid (RNA) by a validated nucleic acid amplification test (NAT) from an appropriate clinical specimen (e.g., buccal swab and urine sample; buccal swab is preferred)  
**OR**
- Demonstration of seroconversion or a significant (e.g., fourfold or greater) rise in mumps IgG antibody level between the acute and convalescent sera  
**OR**
- Positive serologic test for mumps Immunoglobulin M (IgM) antibody using a recommended assay in a person who is either epidemiologically linked to a laboratory-confirmed case or has recently travelled to an area of known mumps activity

**OR**

Clinically compatible signs and symptoms in a person with an epidemiologic link (i.e., close contact - See Section 7.0) to a laboratory-confirmed case

#### 3.2 Probable Case

- Clinically compatible signs and symptoms in the absence of appropriate laboratory tests and in the absence of an epidemiologic link to a laboratory-confirmed case  
**OR**
- Clinically compatible signs and symptoms in a person with recent travel to an area of known mumps activity

### 4.0 Laboratory Evidence

#### 4.1 Laboratory Confirmation

The following will constitute a confirmed case of Mumps:

- Positive mumps virus culture
- Positive (NAT) for mumps virus
- Positive for mumps IgM antibody (with an epidemiologic link)
- Seroconversion or a significant (i.e., fourfold or greater) rise in mumps Immunoglobulin G (IgG) titre

#### 4.2 Approved/Validated Tests

- Standard culture for mumps virus
- Commercial tests for anti-mumps IgM and IgG antibodies
- NAT for mumps virus RNA

#### 4.3 Indications and Limitations

- Reverse Transcriptase-Polymerase Chain Reaction (RT-PCR) is the new gold-standard for mumps detection
- A buccal swab is the preferred specimen
- IgM serology for mumps is most useful in cases of primary infection and may be of limited clinical use in an individual who has a history of mumps vaccination

#### 5.0 Clinical Evidence

Clinically compatible signs and symptoms are characterized by acute onset of unilateral or bilateral tenderness and/or self-limited swelling of the parotid or other salivary gland, lasting > 2 days, and without other apparent cause.

#### 6.0 ICD Code(s)

##### 6.1 ICD-10 Code(s)

B26 Mumps

##### 6.2 ICD-9/ICD-9CM Code(s)

072 Mumps

#### 7.0 Comments

Close contacts are persons who had direct contact with the oral/nasal secretions of a mumps case within the period of communicability (e.g., household contact)

Optimal recovery of mumps virus or detection of mumps RNA is achieved if specimens are obtained three to five days or within nine (9) days of symptom onset

#### 8.0 References

- National Notifiable Diseases Surveillance System. Case Definitions. [Internet]. Mumps; 2008. Atlanta, GA: Centers for Disease Control and Prevention (CDC); 2008. [cited 2009 Feb 12]. Available from [http://www.cdc.gov/ncphi/diss/nndss/casedef/mumps\\_2008.htm](http://www.cdc.gov/ncphi/diss/nndss/casedef/mumps_2008.htm).
- Ministry of Health and Long-Term Care, Public Health Division. iPHIS manual. Toronto, ON: Queen's Printer for Ontario; 2005.
- Nationally Notifiable Diseases Case Definitions with Canadian Public Health Laboratory Network (CPHLN) and Epidemiologic Group Draft Edits. March 2007. Based on case definitions as written in the: Health Canada. Case definitions for diseases under national surveillance. Can Commun Dis Rep. 2000; 26 Suppl 3:i-iv 1-122. Available from <http://www.phac-aspc.gc.ca/publicat/ccdr-rmtc/00pdf/cdr26s3e.pdf>.

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# Appendix B: Provincial Case Definitions for Reportable Diseases

Disease: Ophthalmia neonatorum

## Ophthalmia neonatorum

### 1.0 Provincial Reporting

Confirmed and probable cases of disease

### 2.0 Type of Surveillance

Case-by-case

### 3.0 Case Classification

#### 3.1 Confirmed Case

Laboratory confirmation of *Neisseria gonorrhoeae* or *Chlamydia trachomatis* in conjunctival specimens from an infant (most commonly occurs in infants less than or equal to 28 days in age)

#### 3.2 Probable Case

- Laboratory confirmation of *Neisseria gonorrhoeae* or *Chlamydia trachomatis* in maternal specimen  
**AND/OR**
- Clinically compatible signs and symptoms in an infant (most commonly occurs in infants less than or equal to 28 days in age)

### 4.0 Laboratory Evidence

#### 4.1 Laboratory Confirmation

Any of the following will constitute a confirmed case of Ophthalmia Neonatorum:

- Positive *N. gonorrhoeae* or *C. trachomatis* culture
- Positive for *N. gonorrhoeae* or *C. trachomatis* nucleic acid

#### 4.2 Approved/Validated Tests

- Standard culture for *N. gonorrhoeae* or *C. trachomatis* by enzyme immunoassay (EIA) or direct fluorescent antibody (DFA)

#### 4.3 Indications and Limitations

- N/A

### 5.0 Clinical Evidence

Acute redness and swelling of conjunctiva in one or both eyes, with mucropurulent or purulent discharge in which gonococci are identifiable by microscopic and culture methods. Corneal ulcer, perforation and blindness may occur if specific treatment is not given promptly.

### 6.0 ICD Code(s)

ICD 10 Code A54.3

### 7.0 Comments

- The most common infectious cause is *C. trachomatis*, which produces inclusion conjunctivitis that usually appears 5-14 days after birth.

- In the situation where *C. trachomatis* is isolated from both the lung and the eye of a newborn, the case should be reported as chlamydia pneumonitis.

### 8.0 References

- Public Health Agency of Canada. Canadian guidelines on sexually transmitted infections. Ottawa: Public Health Agency of Canada; 2008. Available from [http://www.phac-aspc.gc.ca/std-mts/sti\\_2006/pdf/Guidelines\\_Eng\\_complete\\_06-26-08.pdf](http://www.phac-aspc.gc.ca/std-mts/sti_2006/pdf/Guidelines_Eng_complete_06-26-08.pdf).
- Heymann D, editor. Control of communicable diseases manual. 18th ed. Washington: American Public Health Association; 2004.
- Ministry of Health and Long-Term Care, Public Health Division. iPHIS manual. Toronto, ON: Queen's Printer for Ontario; 2005.

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# Appendix B: Provincial Case Definitions for Reportable Diseases

Disease: Paratyphoid Fever

## Paratyphoid Fever

### 1.0 Provincial Reporting

Confirmed and probable cases of disease

### 2.0 Type of Surveillance

Case-by -case

### 3.0 Case Classification

#### 3.1 Confirmed Case

Laboratory confirmation of infection with or without clinically compatible signs and symptoms:

- Isolation of *Salmonella Paratyphi* A, B, or C from an appropriate clinical specimen (e.g., sterile site, blood, stool, urine)

#### 3.2 Probable Case

Clinically compatible signs and symptoms in a person with an epidemiologic link to a laboratory-confirmed case

### 4.0 Laboratory Evidence

#### 4.1 Laboratory Confirmation

The following will constitute a confirmed case of Paratyphoid Fever:

- Positive *S. Paratyphi* A, B, or C culture

#### 4.2 Approved/Validated Tests

- Standard culture for *S. Paratyphi* A, B, or C
- Serotyping for O, H and K antigens

#### 4.3 Indications and Limitations

- Further strain characterization is indicated for public health purposes.

### 5.0 Clinical Evidence

Clinically compatible signs and symptoms are characterized by insidious onset of sustained fever, headache, malaise, anorexia, relative bradycardia, constipation, or diarrhea

### 6.0 ICD Code (s)

ICD 10 Code A01.4

### 7.0 Comments

N/A

### 8.0 References

- Heymann D, editor. Control of communicable diseases manual. 18th ed. Washington: American Public Health Association; 2004.
- Ministry of Health and Long-Term Care, Public Health Division. iPHIS manual. Toronto, ON: Queen's Printer for Ontario; 2005.

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# Appendix B: Provincial Case Definitions for Reportable Diseases

Disease: Pertussis (Whooping Cough)

## Pertussis (Whooping Cough)

### 1.0 Provincial Reporting

Confirmed and probable cases of disease

### 2.0 Type of Surveillance

Case-by -case

### 3.0 Case Classification

#### 3.1 Confirmed Case

Laboratory confirmation of *Bordetella pertussis* with clinically compatible signs and symptoms:

- Isolation from an appropriate clinical specimen (e.g., nasopharyngeal swabs)  
**OR**
- Detection of deoxyribonucleic acid (DNA) by nucleic acid amplification test (NAT) from an appropriate clinical specimen (e.g., nasopharyngeal swabs)

**OR**

Clinically compatible signs and symptoms with an epidemiologic link (i.e., close contact) to a laboratory-confirmed case

#### 3.2 Probable Case

Clinically compatible signs and symptoms, specifically cough lasting 2 weeks or longer, in the absence of appropriate laboratory tests and in the absence of an epidemiologic link to a laboratory-confirmed case

**AND**

One or both of the following symptoms, with no other known cause:

- Paroxysmal cough of any duration
- Cough with inspiratory “whoop”

### 4.0 Laboratory Evidence

#### 4.1 Laboratory Confirmation

Any of the following will constitute a confirmed case of Pertussis:

- Positive *B. pertussis* culture
- Positive nucleic acid amplification test (NAT) for *B. pertussis*

#### 4.2 Approved/Validated Tests:

- Standard culture for *B. pertussis*
- NAT for *B. pertussis*
- *B. pertussis* antigen test

#### 4.3 Indications and Limitations

- NAT assays for *B. pertussis* are available and are highly sensitive. These assays must be interpreted along with clinical data.
- Detection of *B. pertussis* by culture has a high specificity and a limited/low sensitivity and high specificity. This may result in under-reporting of cases.

## 5.0 Clinical Evidence

Clinically compatible signs and symptoms include at least one of the following:

- Paroxysmal cough of any duration  
**OR**
- Cough ending in vomiting, or associated with apnea  
**OR**
- Cough with inspiratory “whoop”

## 6.0 ICD Code(s)

### 6.1 ICD-10 Code(s)

A37 Whooping cough (pertussis)

### 6.2 ICD-9/ICD-9CM Code(s)

033 Whooping cough (pertussis)

## 7.0 Comments

Laboratory test results should be interpreted in the context of the clinical presentation of the patient.

## 8.0 References

- Ministry of Health and Long-Term Care, Public Health Division. iPHIS manual. Toronto, ON: Queen’s Printer for Ontario; 2005.
- Nationally Notifiable Diseases Case Definitions with Canadian Public Health Laboratory Network (CPHLN) and Epidemiologic Group Draft Edits. March 2007. Based on case definitions as written in the: Health Canada. Case definitions for diseases under national surveillance. Can Commun Dis Rep. 2000; 26 Suppl 3:i-iv 1-122. Available from <http://www.phac-aspc.gc.ca/publicat/ccdr-rmtc/00pdf/cdr26s3e.pdf>.

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# Appendix B: Provincial Case Definitions for Reportable Diseases

Disease: Plague

# Plague

## 1.0 Provincial Surveillance

Confirmed and probable cases of disease

## 2.0 Type of Surveillance

Case-by -case

## 3.0 Case Classification

### 3.1 Confirmed Case

Laboratory confirmation of infection with clinically compatible signs and symptoms:

- Isolation of *Yersinia pestis* from an appropriate clinical specimen (e.g., body fluids)  
**OR**
- A significant (i.e., fourfold or greater) rise in serum antibody titre to *Y. pestis* fraction 1 (F1) antigen by enzyme immunoassay (EIA) or passive haemagglutination/inhibition titre

### 3.2 Probable Case

Clinically compatible signs and symptoms with one of the following laboratory results:

- Demonstration of elevated serum antibody titre(s) to *Y. pestis* F1 antigen (without documented significant [i.e., fourfold or greater] rise) in a patient with no history of plague immunization  
**OR**
- Demonstration of *Y. pestis* F1 antigen by immunofluorescence  
**OR**
- Detection of *Y. pestis* nucleic acid  
**OR**
- >1:10 passive haemagglutination/inhibition titre in a single serum sample in a patient with no history of vaccination or previous infection  
**OR**
- Detection of *Y. pestis* antibody by EIA

## 4.0 Laboratory Evidence

### 4.1 Laboratory Confirmation

Any of the following will constitute a confirmed case of Plague:

- Positive *Y. pestis* culture with confirmation (See Section 4.2)
- A significant (i.e., fourfold or greater) rise in *Y. pestis* antibody titre

### 4.2 Approved/Validated Tests

- Standard culture for *Y. pestis* with biochemical confirmation
- *Y. pestis* serology
- Nucleic acid amplification test (NAT) for *Y. pestis*
- Direct fluorescent antibody (DFA) for *Y. pestis* F1 antigen

- Confirmatory methods include combinations of the following methods: specific bacteriophage lysis, DFA for F1 antigen, NAT, haemagglutination/inhibition titres, EIA for *Y. pestis* antibody

#### 4.3 Indications and Limitations

- N/A

#### 5.0 Clinical Evidence

Clinically compatible signs and symptoms are characterized by fever, chills, headache, malaise, prostration, and leukocytosis that is manifested 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 haematogenous 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)

#### 6.0 ICD Code(s)

ICD 10 Code A20

#### 7.0 Comments

N/A

#### 8.0 References

- Acha PN, Szyfres B. Zoonoses and communicable diseases common to man and animals. 3<sup>rd</sup> ed. Volume I. Bacterioses and mycoses. Washington DC: Pan American Health Organization; 2003.
- National Notifiable Diseases Surveillance System. Case Definitions. [Internet]. Plague; 1996. Atlanta, GA: Centers for Disease Control and Prevention (CDC); 2008. [cited 2009 Feb 12]. Available from [http://www.cdc.gov/ncphi/diss/nndss/casedef/plague\\_current.htm](http://www.cdc.gov/ncphi/diss/nndss/casedef/plague_current.htm).
- Heymann D, editor. Control of communicable diseases manual. 18th ed. Washington: American Public Health Association; 2004.
- Ministry of Health and Long-Term Care, Public Health Division. iPHIS manual. Toronto, ON: Queen's Printer for Ontario; 2005.
- Nationally Notifiable Diseases Case Definitions with Canadian Public Health Laboratory Network (CPHLN) and Epidemiologic Group Draft Edits. March 2007. Based on case definitions as written in the: Health Canada. Case definitions for diseases under national surveillance. Can Commun Dis Rep. 2000; 26 Suppl 3:i-iv 1-122. Available from <http://www.phac-aspc.gc.ca/publicat/ccdr-rmtc/00pdf/cdr26s3e.pdf>.

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# Appendix B: Provincial Case Definitions for Reportable Diseases

Disease: Pneumococcal disease, invasive

## Pneumococcal disease, invasive

### 1.0 Provincial Reporting

Confirmed cases of disease

### 2.0 Type of Surveillance

Case-by-case

### 3.0 Case Classification

#### 3.1 Confirmed Case

Laboratory confirmation of infection (organism detected) with invasive disease (See Section 5.0):

- Isolation of *Streptococcus pneumoniae* from a normally sterile site (e.g., blood, cerebrospinal fluid [CSF]), excluding the middle ear
- OR**
- Detection of *S. pneumoniae* DNA by nucleic acid amplification test (NAT) from a normally sterile site (e.g., blood, CSF), excluding the middle ear

#### 3.2 Probable Case

Invasive disease and no other apparent cause with laboratory confirmation of infection (antigen detected):

- Detection of *S. pneumoniae* antigen from a normally sterile site (e.g., blood CSF), excluding the middle ear

### 4.0 Laboratory Evidence

#### 4.1 Laboratory Confirmation

Any of the following will constitute a confirmed case of Invasive Pneumococcal disease:

- Positive *S. pneumoniae* culture from a normally sterile site excluding middle ear
- Positive NAT for *S. pneumoniae* from a normally sterile site excluding middle ear

#### 4.2 Approved/Validated Tests

- Standard culture for *S. pneumoniae*
- NAT for *S. pneumoniae*
- *S. pneumoniae* antigen test

#### 4.3 Indications and Limitations

- Detection of *S. pneumoniae* antigen does not allow determination of serotype
- Isolation from non-routine specimens (joint, pleural, or pericardial fluid) may also be performed, but the microbiologist at the Public Health Laboratories of the Ontario Agency for Health Protection and Promotion (OAHPP) should be contacted before these specimens are sent.

### 5.0 Clinical Evidence

Invasive disease manifests itself mainly as pneumonia with bacteremia, bacteremia without a known site of infection, or meningitis. Pneumonia without bacteremia is not reportable.

## 6.0 ICD Code(s)

### 6.1 ICD-10 Code(s)

A40.3 Septicaemia due to *S. pneumoniae*  
B95.3 *S. pneumoniae* as the cause of diseases classified elsewhere, e.g.:  
    I30.1 Infective pericarditis  
    K65.0 Acute peritonitis  
    M00.8 Arthritis and polyarthritis due to other specified bacterial agents  
    O85 Puerperal sepsis  
    P23.6 Congenital pneumonia due to other bacterial agents  
G00.1 Meningitis due to *S. pneumoniae*  
J13 Pneumonia due to *S. pneumoniae*  
M00.1 Pneumococcal arthritis and polyarthritis

### 6.2 ICD-9/ICD-9CM Code(s)

038.2 Septicaemia due to *S. pneumoniae*  
041.2 *S. pneumoniae* of unspecified site and as the cause of diseases classified elsewhere, e.g.:  
    420.9 Infective pericarditis  
    711.0 Pyogenic arthritis  
567.1 Pneumococcal peritonitis  
320.1 Meningitis due to *S. pneumoniae*  
481 Pneumonia due to *S. pneumoniae*  
711.0 Pneumococcal arthritis and polyarthritis

## 7.0 Comments

- Isolates should be sent to the Public Health Laboratories of the OAHPP for serotyping or further characterization
- Determination of serotype from a sterile site isolate and further characterization by a reference laboratory are important in monitoring changes in disease epidemiology, including the impact of vaccination programs, potential serotype replacement, and antibiotic resistance.

## 8.0 References

- Ministry of Health and Long-Term Care, Public Health Division. iPHIS manual. Toronto, ON: Queen's Printer for Ontario; 2005.
- Nationally Notifiable Diseases Case Definitions with Canadian Public Health Laboratory Network (CPHLN) and Epidemiologic Group Draft Edits. March 2007. Based on case definitions as written in the: Health Canada. Case definitions for diseases under national surveillance. Can Commun Dis Rep. 2000; 26 Suppl 3:i-iv 1-122. Available from <http://www.phac-aspc.gc.ca/publicat/ccdr-rmtc/00pdf/cdr26s3e.pdf>.

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# Appendix B: Provincial Case Definitions for Reportable Diseases

Disease: Poliomyelitis, acute

## **Poliomyelitis, acute**

### **1.0 Provincial Reporting**

Confirmed and probable cases of disease

### **2.0 Type of Surveillance**

Case-by-case

### **3.0 Case Classification**

#### **3.1 Confirmed Case**

Clinically compatible signs and symptoms of paralytic polio with no other apparent cause and with travel to a polio endemic region

##### **AND:**

- Isolation of vaccine or wild type poliovirus from an appropriate clinical specimen (e.g., stool, pharyngeal swab, cerebrospinal fluid [CSF])

##### **OR**

- Detection of polio virus ribonucleic acid (RNA) ) by nucleic acid amplification test (NAT)

##### **OR**

Clinically compatible signs and symptoms in a person with an epidemiologic link to a laboratory-confirmed case

#### **3.2 Probable Case**

- Clinically compatible signs and symptoms without detection of polio virus from an appropriate clinical specimen (e.g., stool, pharyngeal swabs, CSF) and without evidence of infection with other neurotropic viruses and with travel to a polio endemic region

### **4.0 Laboratory Evidence**

#### **4.1 Laboratory Confirmation**

Any of the following will constitute a confirmed case of Poliomyelitis:

- Isolation of polio virus (vaccine or wild type) from an appropriate clinical specimen
- Positive for polio virus-specific RNA by NAT

#### **4.2 Approved/Validated Tests**

- Standard culture for poliovirus
- NAT for poliovirus/enterovirus RNA
- Consult with laboratory about testing issues and appropriate specimens

#### **4.3 Indications and Limitations**

- The commercially available NAT does not differentiate polioviruses from other enteroviruses
- Further isolate characterization is indicated for epidemiological public health and control purposes

## 5.0 Clinical Evidence

Clinically compatible signs and symptoms are characterized by all of the following:

- Acute flaccid paralysis of one or more limbs
- Decreased or absent deep tendon reflexes on the affected limb(s)
- No sensory or cognitive loss,
- Neurologic deficit present 60 days after onset of initial symptoms unless patient has died

## 6.0 ICD Code(s)

### 6.1 ICD-10 Code(s)

G05.2, G04.0, T50.9, Y59.0, A80.3 Poliomyelitis

### 6.2 ICD-9/ICD-9CM Code(s)

323.2, 323.5, 979.5, E949.5 (polio vaccine poisoning), 045.1 (acute polio with other paralysis) Poliomyelitis

## 7.0 Comments

- Polio virus strain typing is done using sequencing methodologies at the National Microbiology Laboratory
- Stool specimens and pharyngeal swabs are preferred specimens. Other specimens include autopsy material and CSF
- Cultures of stool from a single specimen collected within the first 15 days after onset of symptoms represents the diagnostic test for confirming polio.

**Confirmed cases of poliomyelitis can be further subdivided into the following two categories:**

### a) Wild virus

Laboratory investigation implicates wild type virus. This group is further subdivided as follows:

- imported: travel in or residence in a polio-endemic area 30 days or less before onset of symptoms
- import-related: epidemiologic link to someone who has travelled in or resided in a polio-endemic area within 30 days of onset of symptoms
- indigenous: no travel or contact as described above

### b) Vaccine-associated virus

Laboratory investigation implicates vaccine-type virus. This group is further subdivided as follows:

- recipient: the illness began 7-30 days after the patient received oral polio vaccine (OPV)
- contact: the patient was shown to have been in contact with an OPV-recipient and became ill 7-60 days after the contact was vaccinated
- possible contact: the patient had no known direct contact with an OPV-recipient and no history of receiving OPV, but the paralysis occurred in an area in which a mass vaccination campaign using OPV had been in progress 7-60 days before the onset of paralysis
- no known contact: the patient had no known contact with an OPV-recipient and no history of receiving OPV, and the paralysis occurred in an area where no routine or intensive OPV vaccination had been in progress. In Canada, this would include all provinces and territories.

## **Disease Specific Guidelines and Procedures**

### **i. Non-Paralytic Poliomyelitis**

Non-paralytic poliomyelitis should be reported under encephalitis/meningitis (viral meningitis).

### **ii. Stool viral culture results**

Shedding of the poliovirus in the stool may occur for several weeks after administration of oral polio vaccine.

**iii.** Cases of acute flaccid paralysis (AFP) not due to the polio virus should be reported to the Senior Coordinator for the Canadian Paediatric Surveillance Program at 613-526-9397 ext. 239. Cases should also be immediately reported to the PHD of the MOHLTC using the 24 hour emergency line, (416) 212-6361 or (416) 212-6362

## **8.0 References**

- Ministry of Health and Long-Term Care, Public Health Division. iPHIS manual. Toronto, ON: Queen's Printer for Ontario; 2005.
- Nationally Notifiable Diseases Case Definitions with Canadian Public Health Laboratory Network (CPHLN) and Epidemiologic Group Draft Edits. March 2007. Based on case definitions as written in the: Health Canada. Case definitions for diseases under national surveillance. Can Commun Dis Rep. 2000; 26 Suppl 3:i-iv 1-122. Available from <http://www.phac-aspc.gc.ca/publicat/ccdr-rmtc/00pdf/cdr26s3e.pdf>.

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# Appendix B: Provincial Case Definitions for Reportable Diseases

Disease: Psittacosis/Ornithosis

## Psittacosis/Ornithosis

### 1.0 Provincial Reporting

Confirmed and probable cases of disease

### 2.0 Type of Surveillance

Case-by-case

### 3.0 Case Classification

#### 3.1 Confirmed Case

Laboratory confirmation of infection with clinically compatible signs and symptoms:

- A significant (i.e., fourfold or greater) rise in antibodies to *Chlamydophila* (formerly *Chlamydia*) *psittaci*
- OR**
- Isolation of the infectious agent from a clinical specimen (e.g., blood, sputum)

#### 3.2 Probable Case

Clinically compatible signs and symptoms in a person with:

- An epidemiologic link to a known source (i.e., human, animal or environment)
- OR**
- Supportive serology (e.g., *C. psittaci* titre of  $\geq 32$ ) with one or more serum specimens obtained after onset of symptoms
- OR**
- Positive for nucleic acid amplification testing (NAT) for *C. psittaci* specific targets

### 4.0 Laboratory Evidence

#### 4.1 Laboratory Confirmation

Any of the following will constitute a confirmed case of Psittacosis/Ornithosis:

- Isolation of infectious agent from clinical specimen [This should be done in a Containment level 3 facility, being a risk level 3 agent in Canada.]
- A significant (i.e., fourfold or greater) rise in antibody response towards *C. psittaci*

#### 4.2 Approved/Validated Tests

- Microimmunofluorescence (MIF) assay for serologic response to *C. psittaci*, with positive and negative control sera used with each run and other quality indices as described by Dowell et al.
- NAT for *C. psittaci* specific targets (e.g., 16SrRNA and 23SrRNA gene targets)

#### 4.3 Indications and Limitations

- Chronic *C. psittaci* infection has been found to be associated with ocular adnexal mucosa-associated lymphoid tissue[MALT]-type lymphoma in some instances
- The Focus Diagnostics commercial kit for MIF testing (Cypress Ca) contains antigens for *C. pneumoniae*, *C. psittaci* and *C. trachomatis*. The National Microbiology Laboratory (NML) uses a method as outlined by Wang. Interpretation was adapted for MIF platform as described by Dowell et al. However, cross reactivity among closely related agents using MIF test

procedures have been observed here; the sensitivity and specificity of the MIF for diagnosis of psittacosis specifically is not well evaluated and so interpretation of titre must be linked with symptoms and / or linkage with definitive cases (see also recent publication by Verminnen et al.)

- In-house NAT testing should be done using standard controls

### 5.0 Clinical Evidence

Mild forms may be mistaken for common respiratory illnesses. The disease can have a sudden onset with fever, chills, sweating, myalgia, loss of appetite and headaches. Human disease can be severe, especially in untreated elderly persons.

### 6.0 ICD Code(s)

ICD 10 Code A70

### 7.0 Comments

N/A

### 8.0 References

- Acha PN, Szyfres B. Zoonoses and communicable diseases common to man and animals. 3<sup>rd</sup> ed. Volume II. Chlamydioses, Rickettsioses, and Viroses. Washington DC: Pan American Health Organization; 2003.
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- National Notifiable Diseases Surveillance System. Case Definitions. [Internet]. Psittacosis; 1996. Atlanta, GA: Centers for Disease Control and Prevention (CDC); 2008. [cited 2009 Feb 12]. Available from <http://www.cdc.gov/ncphi/diss/nndss/casedef/psittacosiscurrent.htm>.
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- Heymann D, editor. Control of communicable diseases manual. 18th ed. Washington: American Public Health Association; 2004.
- Ministry of Health and Long-Term Care, Public Health Division. iPHIS manual. Toronto, ON: Queen's Printer for Ontario; 2005.
- Verminnen K, Duquenne B, De Keukeleire D, Duim B, Pannekoek Y, Braeckman L, Vanrompay D. Evaluation of a *Chlamydophila psittaci* infection diagnostic platform for zoonotic risk assessment. J Clin Microbiol. 2008;46(1):281-5.
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# Appendix B: Provincial Case Definitions for Reportable Diseases

Disease: Q Fever

## Q Fever

### 1.0 Provincial Reporting

Confirmed and probable cases of disease

### 2.0 Type of Surveillance

Case-by-case

### 3.0 Case Classification

#### 3.1 Confirmed Case

Laboratory confirmation of infection with clinically compatible signs and symptoms:

- A significant (i.e., fourfold or greater) rise in specific antibodies to *Coxiella burnetii*

**OR**

- Isolation of *C. burnetii* from blood

#### 3.2 Probable Case

Clinically compatible signs and symptoms in a person with:

- An epidemiologic link to a laboratory-confirmed case

**OR**

- A single complement fixation titre  $\geq 1:32$

**OR**

An asymptomatic individual with positive laboratory evidence and with an epidemiologic link to a confirmed source (i.e., human, animal or environment).

### 4.0 Laboratory Evidence

#### 4.1 Laboratory Confirmation

The following will constitute a confirmed case of Q Fever:

- Reactive results  $\geq 1:256$  for phase I / II Immunoglobulin G (IgG) and/or  $\geq 1:16$  for phase I / II Immunoglobulin M (IgM)

#### 4.2 Approved/Validated Tests

- Complement Fixation
- IgG and IgM immunofluorescence assay (IFA) for the detection and semi quantitation to phase I and phase II *C. burnetii* antigens and as an aid in the diagnosis of Q Fever

#### 4.3 Indications and Limitations

- Neither phase of *C. burnetii* antigen has been found to cross-react with either rickettsia or bacteria sufficiently to produce false positive reactions
- Low levels of phase II IgG antibody ( $<1:256$ ) may be considered non-specific
- The results obtained should be used in conjunction with the clinical information available to the physician
- Serologic responses are time dependant. Specimens obtained too early in the infection may not contain detectable antibody levels. If Q fever is suspected, obtain a second specimen 2 to 3 weeks later.

## 5.0 Clinical Evidence

An acute febrile rickettsial disease; onset may be sudden chills, retrobulbar headache, weakness, malaise and severe sweats.

## 6.0 ICD Code(s)

ICD 10 Code A78

## 7.0 Comments

N/A

## 8.0 References

- Acha PN, Szyfres B. Zoonoses and communicable diseases common to man and animals. 3<sup>rd</sup> ed. Volume II. Chlamydioses, Rickettsioses, and Viroses. Washington DC: Pan American Health Organization; 2003.
- National Notifiable Diseases Surveillance System. Case Definitions. [Internet]. Q Fever; 2009. Atlanta, GA: Centers for Disease Control and Prevention (CDC); 2009. [cited 2009 Feb 12]. Available from [http://www.cdc.gov/ncphi/diss/nndss/casedef/q\\_fever\\_2009.htm](http://www.cdc.gov/ncphi/diss/nndss/casedef/q_fever_2009.htm).
- Heymann D, editor. Control of communicable diseases manual. 18th ed. Washington: American Public Health Association; 2004.
- Ministry of Health and Long-Term Care, Public Health Division. iPHIS manual. Toronto, ON: Queen's Printer for Ontario; 2005.

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# Appendix B: Provincial Case Definitions for Reportable Diseases

Disease: Rabies

## Rabies

### 1.0 Provincial Reporting

Confirmed and probable cases of disease

### 2.0 Type of Surveillance

Case-by-case

### 3.0 Case Classification

#### 3.1 Confirmed Case

Laboratory confirmation of infection with clinically compatible signs and symptoms:

- Detection of viral antigen in an appropriate clinical specimen, preferably the brain or the nerves surrounding hair follicles in the nape of the neck, by immunofluorescence

**OR**

- Isolation of rabies virus from saliva, cerebrospinal fluid (CSF), or central nervous system tissue using cell culture or laboratory animal

**OR**

- Detection of rabies virus ribonucleic acid (RNA) in an appropriate clinical specimen (e.g., saliva)

#### 3.2 Probable Case

Clinically compatible signs and symptoms with the following laboratory results:

- Demonstration of rabies-neutralizing antibody titre  $\geq$  five (i.e., complete neutralization) in the serum or CSF of an unvaccinated person

### 4.0 Laboratory Evidence

#### 4.1 Laboratory Confirmation

Any of the following will constitute a confirmed case of Rabies:

- Positive for rabies antigen
- Positive rabies virus culture
- Positive nucleic acid amplification test (NAT) for rabies virus

#### 4.2 Approved/Validated Tests

- Immunofluorescence for rabies virus antigen
- Standard culture for rabies virus
- NAT for rabies virus RNA
- Neutralizing antibody titres for rabies virus

#### 4.3 Indications and Limitations

- Negative results do not rule out rabies infection because viral material may not be detectable (e.g., early in infection). CSF frequently remains negative.
- The presence of rabies-neutralizing antibodies can indicate an exposure to rabies virus antigen or passive immunization.
- Negative serological results do not rule out a rabies infection because antibody levels may not surpass the detection threshold (0.5 IU) and seroconversion is usually very late.

- The sensitivity and specificity of serological tests vary greatly from laboratory to laboratory in spite of the application of international standards.
- Immunofluorescence on unfixed brain tissue is the only recommended test for post-mortem diagnosis.

### 5.0 Clinical Evidence

Clinically compatible signs and symptoms begin with a feeling of anxiety, cephalalgia, slightly elevated body temperature, malaise and indefinite sensory alterations, frequently around the site of the lesion. The excitation phase that follows is characterized by hyperesthesia, dilation of pupils and increased salivation. As the disease progresses swallowing dysfunction is seen in most patients and there may be spasms of the respiratory muscles and generalized convulsions. Rabies is an acute encephalomyelitis that almost always progresses to coma or death within 10 days after the first symptom.

### 6.0 ICD Code(s)

ICD 10 Code A82

### 7.0 Comments

N/A

### 8.0 References

- Acha PN, Szyfres B. Zoonoses and communicable diseases common to man and animals. 3<sup>rd</sup> ed. Volume II. Chlamydioses, Rickettsioses, and Viroses. Washington DC: Pan American Health Organization; 2003.
- National Notifiable Diseases Surveillance System. Case Definitions. [Internet]. Rabies, Human; 1997. Atlanta, GA: Centers for Disease Control and Prevention (CDC); 2008. [cited 2009 Feb 12]. Available from [http://www.cdc.gov/ncphi/diss/nndss/casedef/rabies\\_human\\_current.htm](http://www.cdc.gov/ncphi/diss/nndss/casedef/rabies_human_current.htm).
- Heymann D, editor. Control of communicable diseases manual. 18th ed. Washington: American Public Health Association; 2004.
- Ministry of Health and Long-Term Care, Public Health Division. iPHIS manual. Toronto, ON: Queen's Printer for Ontario; 2005.
- Nationally Notifiable Diseases Case Definitions with Canadian Public Health Laboratory Network (CPHLN) and Epidemiologic Group Draft Edits. March 2007. Based on case definitions as written in the: Health Canada. Case definitions for diseases under national surveillance. Can Commun Dis Rep. 2000; 26 Suppl 3:i-iv 1-122. Available from <http://www.phac-aspc.gc.ca/publicat/ccdr-rmtc/00pdf/cdr26s3e.pdf>.

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# Appendix B: Provincial Case Definitions for Reportable Diseases

Disease: Respiratory infection outbreaks in institutions

## Respiratory infection outbreaks in institutions

### 1.0 Provincial Reporting

Confirmed outbreaks

### 2.0 Type of Surveillance

Outbreak summary data

### 3.0 Outbreak Classification

#### 3.1 Confirmed Outbreak Definition

Confirmed respiratory infection outbreak in a Long-Term Care Home:

- Two cases of acute respiratory tract illness within 48 hours, at least one of which must be laboratory-confirmed

**OR**

- Three cases of acute respiratory illness (laboratory confirmation not necessary) occurring within 48 hours in a geographic area (e.g., unit, floor)

**OR**

- More than two units having a case of acute respiratory tract illness within 48 hours

#### **Confirmed influenza outbreak in a hospital:**

- Two or more cases of nosocomially acquired influenza-like illness occurring within 48 hours on a specific hospital unit, with at least one case laboratory-confirmed as influenza

#### 3.2 Suspect Outbreak Definition

Suspect respiratory infection outbreak:

- Two cases of acute respiratory tract illness occurring within 48 hours in a geographic area (e.g., unit, floor)

**OR**

- More than one unit having a case of acute respiratory illness within 48 hours

#### **Suspect influenza outbreak:**

- One laboratory-confirmed case of influenza

**OR**

- Two cases of acute respiratory tract illness occurring within 48 hours in a geographic area (e.g., unit, floor)

**OR**

- More than one unit having a case of acute respiratory illness within 48 hours

### 4.0 Laboratory Evidence

#### 4.1 Laboratory Confirmation

Laboratory confirmation is not required to be classified as a confirmed institutional respiratory infection outbreak

#### 4.2 Approved/Validated Tests

- Standard culture for influenza virus, respiratory syncytial virus (RSV) and rhinovirus
- Influenza, RSV, parainfluenza, adenovirus direct fluorescent antibody (DFA) antigen test
- Influenza IgG serology tests
- Nucleic acid amplification test (NAT) for influenza virus, RSV, rhinovirus/enterovirus, parainfluenza virus, adeno virus, human metapneumovirus, corona virus ribonucleic acid (RNA)
- Rapid enzyme immunoassay (EIA) or immunochromatographic (ICT) test kits for influenza virus and RSV

#### 4.3 Indications and Limitations

- NAT primers and probes should be validated to detect the current strains of influenza, RSV, rhinovirus/enterovirus, parainfluenza virus, adeno virus, human metapneumovirus and coronavirus.
- A proportion of influenza isolates should be typed for strain identification, as appropriate, for epidemiological, public health and control purposes.
- Antigen testing for influenza virus and RSV is indicated only during the influenza season due to low positive predictive value.

### 5.0 Clinical Evidence

**Clinically compatible signs and symptoms include but are not limited to the following:**

- Upper respiratory tract illness (e.g., common cold, pharyngitis)
  - Runny nose or sneezing
  - Stuffy nose (i.e., congestion)
  - Sore throat or hoarseness or difficulty swallowing
  - Dry cough
  - Swollen or tender glands in the neck (i.e., cervical lymphadenopathy)
  - Fever/abnormal temperature for the resident may be present, but is not required
  - Tiredness (i.e., malaise)
  - Muscle aches (i.e., myalgia)
  - Loss of appetite
  - Headache
  - Chills

### 6.0 ICD Code(s)

ICD 10 Code J22a

### 7.0 Comments

Different respiratory viruses often cause similar acute respiratory symptoms. The above case definitions are general; **each respiratory outbreak requires its own definition.** The case definition should be developed for each individual outbreak based on its characteristics, reviewed during the course of the outbreak, and modified if necessary, to ensure that the majority of cases are captured by the definition. Whenever there are **two cases of acute respiratory tract illness within 48 hours on one unit**, an outbreak should be suspected and tests should be done to determine the causative organism.

## 8.0 References

- Ministry of Health and Long-Term Care, Public Health Division. iPHIS manual. Toronto, ON: Queen's Printer for Ontario; 2005.
- Ministry of Health and Long-Term Care, Public Health Division & Long-Term Care Homes Branch. A Guide to the control of respiratory infection outbreaks in long-term care homes. Toronto, ON: Queen's Printer for Ontario; 2004.  
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# Appendix B: Provincial Case Definitions for Reportable Diseases

Disease: Rubella

## Rubella

### 1.0 Provincial Reporting

Confirmed and probable cases of disease

### 2.0 Type of Surveillance

Case-by-case

### 3.0 Case Classification

#### 3.1 Confirmed Case

Laboratory confirmation of infection in the absence of recent immunization with rubella-containing vaccine:

- Isolation of rubella virus in culture from clinical samples (i.e., throat swabs, nasopharyngeal swabs/aspirates, urine)  
**OR**
- Detection of rubella virus ribonucleic acid (RNA) ) by nucleic acid amplification test (NAT)  
**OR**
- Positive serologic test for rubella Immunoglobulin M (IgM) antibody using a recommended assay in a person with an epidemiologic link to a laboratory-confirmed case or has recently travelled to an area of known rubella activity  
**OR**
- A significant (i.e., fourfold or greater) rise in rubella Immunoglobulin G (IgG) antibody level or a seroconversion using a recommended IgG assay in paired acute and convalescent sera

**OR**

Clinically compatible signs and symptoms with an epidemiologic link to a laboratory-confirmed case

#### 3.2 Probable Case

- Clinically compatible signs and symptoms in a person with recent travel to an area of known rubella activity

### 4.0 Laboratory Evidence

#### 4.1 Laboratory Confirmation

Any of the following will constitute a confirmed case of Rubella:

- Positive for rubella IgM antibody (with an epidemiologic link)
- Seroconversion or rise in rubella IgG titre
- Positive rubella virus culture with immunofluorescence (IF)
- Positive for rubella virus by direct NAT

#### 4.2 Approved/Validated Tests

- Commercial tests for rubella IgM and IgG antibodies
- Standard culture for rubella virus
- NAT for rubella virus RNA

- Consult with laboratory about appropriate specimens for each testing methodology

#### **4.3 Indications and Limitations**

- IgM serology has the potential for false positive findings. Further confirmation (IgG paired serology or rubella virus detection) is required in cases specifically where there is no established epidemiological link (e.g. recent travel/exposure history).
- Because of the implications of acute rubella infection in a pregnant woman and the potential for a false positive IgM result, avidity testing of Rubella IgG antibodies is recommended for pregnant women with a positive IGM result when there is no change in observed rubella IgG levels. Although in North America most people consider a rubella IgG level of >10 IU/ml to confer immunity against rubella infection, the actual level that correlates with protection has not been fully defined.

#### **5.0 Clinical Evidence**

Clinically compatible signs and symptoms are characterized by fever and rash, and at least one of the following:

- arthralgia/arthritis
- lymphadenopathy
- conjunctivitis

#### **6.0 ICD Code(s)**

##### **6.1 ICD-10 Code(s)**

B06 Rubella

##### **6.2 ICD-9/ICD-9CM Code(s)**

056 Rubella

#### **7.0 Comments**

N/A

#### **8.0 References**

- National Notifiable Diseases Surveillance System. Case Definitions. [Internet]. Rubella (German measles); 2009 Jan 5. [cited 2009 Feb 12]. Atlanta, GA: Centers for Disease Control and Prevention (CDC); 2009..Available from [http://www.cdc.gov/ncphi/diss/nndss/casedef/rubella\\_2009.htm](http://www.cdc.gov/ncphi/diss/nndss/casedef/rubella_2009.htm).
- Ministry of Health and Long-Term Care, Public Health Division. iPHIS manual. Toronto, ON: Queen's Printer for Ontario; 2005.
- Nationally Notifiable Diseases Case Definitions with Canadian Public Health Laboratory Network (CPHLN) and Epidemiologic Group Draft Edits. March 2007. Based on case definitions as written in the: Health Canada. Case definitions for diseases under national surveillance. Can Commun Dis Rep. 2000; 26 Suppl 3:i-iv 1-122. Available from <http://www.phac-aspc.gc.ca/publicat/ccdr-rmtc/00pdf/cdr26s3e.pdf>.

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# Appendix B: Provincial Case Definitions for Reportable Diseases

Disease: Rubella, congenital syndrome

## Rubella, congenital syndrome

### 1.0 Provincial Reporting

Confirmed cases of disease

### 2.0 Type of Surveillance

Case-by-case

### 3.0 Case Classification

#### 3.1 Confirmed Case

Live birth: Two clinically compatible manifestations (any combination from Table 1, Columns A and B) with laboratory confirmation of infection and documented maternal rubella in pregnancy:

- Isolation of rubella virus from an appropriate clinical specimen (e.g., throat swab, urine, nasopharyngeal aspirate/wash/swab)

**OR**

- Detection of rubella virus ribonucleic acid (RNA) ) by nucleic acid amplification test (NAT) from an appropriate clinical specimen

**OR**

- Positive serologic test for rubella Immunoglobulin M (IgM) antibody in the absence of recent immunization with rubella-containing vaccine

**OR**

- Rubella Immunoglobulin G (IgG) persisting for longer than would be expected (approximately 6 months following birth) from passive transfer of maternal antibody, or in the absence of recent immunization

Still birth: Two clinically compatible manifestations with isolation and/or detection of rubella virus RNA from an appropriate clinical specimen (e.g., placenta and autopsy material) and/or documented maternal rubella infection in pregnancy

#### 3.2 Probable Case

In the absence of appropriate laboratory tests a case that has at least:

- Two clinically compatible manifestations listed in Table 1, column A (See Section 5.0)

**OR**

- One manifestation listed in Table 1, column A, plus one listed in Table 1, column B (See Section 5.0)

### 4.0 Laboratory Evidence

#### 4.1 Laboratory Confirmation

Any of the following will constitute a confirmed case of congenital Rubella infection:

- Positive for rubella IgM in the absence of recent immunization with rubella-containing vaccine
- Rubella IgG persisting longer than would be expected (approximately 6 months) from passive transfer of maternal antibody, or in the absence of recent immunization
- Positive rubella virus culture

- Positive for rubella virus by direct NAT

#### 4.2 Approved/Validated Tests

- Standard culture for rubella virus
- Commercial tests for anti-rubella IgM and IgG antibodies
- NAT for rubella virus RNA
- Consult with laboratory about appropriate specimens for each testing methodology

#### 4.3 Indications and Limitations

- Rubella IgM may not always be detectable at birth following congenital infection. Virus isolation and/or detection of rubella RNA and monitoring of IgG response may be necessary.
- Many of the commercial kits used are not necessarily approved for testing cord blood and validation studies have not been done at the Public Health Laboratories of the Ontario Agency for Health Protection and Promotion, therefore do not use cord blood.

### 5.0 Clinical Evidence

**Table1. Congenital Rubella Syndrome: Clinically Compatible Manifestations**

Column A	Column B
1. Cataracts or congenital glaucoma (either one or both count as one) 2. Congenital heart defect 3. Sensorineural hearing loss 4. Pigmentary retinopathy	1. Purpura 2. Hepatosplenomegaly 3. Microcephaly 4. Micro ophthalmia 5. Intellectual Disability 6. Meningoencephalitis 7. Radiolucent bone disease 8. Developmental or late onset conditions such as diabetes & progressive panencephalitis & any other conditions possibly caused by rubella virus

### 6.0 ICD Code(s)

#### 6.1 ICD-10 Code(s)

B06.0 plus G05.1, B06.9  
 P35.0 Congenital rubella

#### 6.2 ICD-9/ICD-9CM Code(s)

056.01 Encephalomyelitis due to rubella  
 771.0 Congenital rubella

### 7.0 Comments

N/A

### 8.0 References

- Ministry of Health and Long-Term Care, Public Health Division. iPHIS manual. Toronto, ON: Queen's Printer for Ontario; 2005.
- Nationally Notifiable Diseases Case Definitions with Canadian Public Health Laboratory Network (CPHLN) and Epidemiologic Group Draft Edits. March 2007. Based on case definitions as written in the: Health Canada. Case definitions for diseases under national surveillance. Can Commun Dis Rep. 2000; 26 Suppl 3:iv 1-122. Available from <http://www.phac-aspc.gc.ca/publicat/ccdr-rmtc/00pdf/cdr26s3e.pdf>.

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# Appendix B: Provincial Case Definitions for Reportable Diseases

Disease: Salmonellosis

## Salmonellosis

### 1.0 Provincial Reporting

Confirmed and probable cases of disease

### 2.0 Type of Surveillance

Case-by-case

### 3.0 Case Classification

#### 3.1 Confirmed Case

Laboratory confirmation of infection with or without clinically compatible signs and symptoms:

- Isolation of *Salmonella* spp. (excluding *Salmonella* Typhi or Paratyphi) from an appropriate clinical specimen (e.g., sterile site, blood, stool, vomitus, urine)

#### 3.2 Probable Case

Clinically compatible signs and symptoms in a person with an epidemiologic link to a laboratory-confirmed case

### 4.0 Laboratory Evidence

#### 4.1 Laboratory Confirmation

The following will constitute a confirmed case of Salmonellosis:

- Positive *Salmonella* spp. culture

#### 4.2 Approved/Validated Tests

- Standard culture for *Salmonella* spp.
- Serotyping for O, H and K antigen

#### 4.3 Indications and Limitations

- Further strain characterization is indicated for public health purposes

### 5.0 Clinical Evidence

Clinically compatible signs and symptoms are characterized by headache, diarrhea, abdominal pain, nausea, fever and sometimes vomiting. Asymptomatic infections may occur, and the organism may cause extra-intestinal infections.

### 6.0 ICD Code(s)

#### 6.1 ICD-10 Code(s)

- A02.0 Salmonella enteritis  
Salmonellosis
- A02.1 Salmonella septicaemia
- A02.2 Localized salmonella infections
- A02.8 Other specified salmonella infections
- A02.9 Salmonella infection, unspecified

## 6.2 ICD-9/ICD-9CM Code(s)

003.0 Salmonella gastroenteritis

Salmonellosis

003.1 Salmonella septicemia

003.2 Localized Salmonella infections

003.8 Other specified Salmonella infections

003.9 Salmonella infection, unspecified

## 7.0 Comments

N/A

## 8.0 References

- Acha PN, Szyfres B. Zoonoses and communicable diseases common to man and animals. 3<sup>rd</sup> ed. Volume I. Bacterioses and mycoses. Washington DC: Pan American Health Organization; 2003.
- Heymann D, editor. Control of communicable diseases manual. 18th ed. Washington: American Public Health Association; 2004.
- Ministry of Health and Long-Term Care, Public Health Division. iPHIS manual. Toronto, ON: Queen's Printer for Ontario; 2005.
- Nationally Notifiable Diseases Case Definitions with Canadian Public Health Laboratory Network (CPHLN) and Epidemiologic Group Draft Edits. March 2007. Based on case definitions as written in the: Health Canada. Case definitions for diseases under national surveillance. Can Commun Dis Rep. 2000; 26 Suppl 3:i-iv 1-122. Available from <http://www.phac-aspc.gc.ca/publicat/ccdr-rmtc/00pdf/cdr26s3e.pdf>.

**Date of Last Revision:** November 2008



# Appendix B: Provincial Case Definitions for Reportable Diseases

Disease: Severe Acute Respiratory Syndrome (SARS)

## Severe Acute Respiratory Syndrome (SARS)

### 1.0 Provincial Reporting

Confirmed and probable cases of disease

### 2.0 Type of Surveillance

Case-by-case

### 3.0 Case Classification

#### 3.1 Confirmed case

Laboratory evidence of SARS-associated coronavirus (SARS-CoV) infection,  
AND:

- Early presentation of clinically compatible signs and symptoms of SARS  
**AND**
- Radiographic evidence consistent with SARS

**OR**

A deceased person with:

- A history of early presentation of clinically compatible signs and symptoms of SARS (i.e., fever **AND** cough **OR** difficulty breathing resulting in death)  
**AND**
- Autopsy findings consistent with SARS, i.e.:
  - Evidence of pneumonia or Acute Respiratory Distress Syndrome (ARDS) without an alternate identifiable cause  
**AND**
  - Laboratory evidence of SARS coronavirus infection

#### 3.2 Probable case

In the absence of laboratory evidence, a person with:

- Early presentation of clinically compatible signs and symptoms of SARS  
**AND**
- Radiographic evidence consistent with SARS  
**AND**
- An epidemiologic link to a person or place linked to SARS, including:
  - Close contact\* (See Section 7.0) with a confirmed SARS case, within 10 days of onset of symptoms  
**OR**
  - Close contact with a symptomatic person who has laboratory evidence of SARS-CoV infection, within 10 days of onset of symptoms  
**OR**
  - Residence, recent travel or visit to an “Area with recent local transmission of SARS” within the 10 days prior to onset of symptoms **OR** close contact (including health care providers) with a probable case who has been to an “Area with recent local transmission of SARS” within the 10 days prior to onset of symptoms  
**OR**
  - Laboratory exposure to SARS-CoV

## OR

A deceased person with:

- A history of early presentation of clinically compatible signs and symptoms of SARS  
**AND**
- Autopsy findings consistent with SARS  
**AND**
- An epidemiologic link to a person or place linked to SARS

## 4.0 Laboratory Evidence

### 4.1 Laboratory Confirmation

- Laboratory results must be verified by the Public Health Laboratories of the Ontario Agency for Health Protection and Promotion and/or the National Microbiology Laboratory

### 4.2 Approved/Validated Tests

- PCR positive results or seroconversion or virus isolation

### 4.3 Indications and Limitations

- N/A

## 5.0 Clinical Evidence

Clinically compatible signs and symptoms are characterized by all of the following:

- Fever (> 38 degrees Celsius)
- Cough OR breathing difficulty (i.e., new or worsening cough or shortness of breath)
- Radiographic evidence of infiltrates consistent with pneumonia or respiratory distress syndrome (RDS)

## 6.0 ICD Code(s)

### 6.1 ICD-10 Code(s)

U04 Severe Acute Respiratory Syndrome (SARS)

U04.90 Suspected Severe Acute Respiratory Syndrome (SARS)

U04.91 Suspected Severe Acute Respiratory Syndrome (SARS)

## 7.0 Comments

\* Close contact means having cared for, lived with or had face-to-face (within one metre) contact with, or having had direct contact with respiratory secretions and/or body fluids of a person with SARS.

During an outbreak period, persons without x-ray changes (i.e. those who are not severely ill) may have laboratory evidence of SARS Coronavirus (SARS-CoV) infection if tested as part of an outbreak. These individuals will be considered as “confirmed SARS-CoV infection”, while not meeting the clinical criteria for confirmed cases of “Severe Acute Respiratory Syndrome (SARS)”.

## 8.0 References

- Ministry of Health and Long-Term Care, Public Health Division. iPHIS manual. Toronto, ON: Queen’s Printer for Ontario; 2005.

- Nationally Notifiable Diseases Case Definitions with Canadian Public Health Laboratory Network (CPHLN) and Epidemiologic Group Draft Edits. March 2007. Based on case definitions as written in the: Health Canada. Case definitions for diseases under national surveillance. Can Commun Dis Rep. 2000; 26 Suppl 3:iv 1-122. Available from <http://www.phac-aspc.gc.ca/publicat/ccdr-rmtc/00pdf/cdr26s3e.pdf>.

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# Appendix B: Provincial Case Definitions for Reportable Diseases

Disease: Shigellosis

# Shigellosis

## 1.0 Provincial Reporting

Confirmed and probable cases of disease

## 2.0 Type of Surveillance

Case-by -case

## 3.0 Case Classification

### 3.1 Confirmed Case

Laboratory confirmation of infection with or without clinically compatible signs and symptoms:

- Isolation of *Shigella* spp. from an appropriate clinical specimen (e.g., stool, urine)

### 3.2 Probable Case

- Clinically compatible signs and symptoms in a person with an epidemiologic link to a laboratory-confirmed case

## 4.0 Laboratory Evidence

### 4.1 Laboratory Confirmation

The following will constitute a confirmed case of Shigellosis:

- Positive *Shigella* spp. culture

### 4.2 Approved/Validated Tests

- Standard culture for *Shigella* spp.
- Serotyping of O antigen

### 4.3 Indications and Limitations

- Further strain characterization, including drug resistance testing, is indicated for epidemiological public health and control purposes

## 5.0 Clinical Evidence

Clinically compatible signs and symptoms are characterized by diarrhea, fever, nausea, vomiting, cramps, and tenesmus. Asymptomatic infections may occur.

## 6.0 ICD Code(s)

### 6.1 ICD-10 Code(s)

A03 Shigellosis

A03.0 Shigellosis due to *Shigella dysenteriae* (Group A shigellosis)

A03.1 Shigellosis due to *Shigella flexneri* (Group B shigellosis)

A03.2 Shigellosis due to *Shigella boydii* (Group C shigellosis)

A03.3 Shigellosis due to *Shigella sonnei* (Group D shigellosis)

A03.8 Other shigellosis

A03.9 Shigellosis, unspecified (Bacillary dysentery NOS)

## 6.2 ICD-9/ICD-9CM Code(s)

004 Shigellosis (includes bacillary dysentery)

004.0 *Shigella dysenteriae*

Infection by group A Shigella (Schmitz) (Shiga)

004.1 *Shigella flexneri*

Infection by group B Shigella

004.2 *Shigella boydii*

Infection by group C Shigella

004.3 *Shigella sonnei*

Infection by group D Shigella

004.8 Other specified shigella infections

004.9 Shigellosis, unspecified

## 7.0 Comments

N/A

## 8.0 References

- Heymann D, editor. Control of communicable diseases manual. 18th ed. Washington: American Public Health Association; 2004.
- Ministry of Health and Long-Term Care, Public Health Division. iPHIS manual. Toronto, ON: Queen's Printer for Ontario; 2005.
- Nationally Notifiable Diseases Case Definitions with Canadian Public Health Laboratory Network (CPHLN) and Epidemiologic Group Draft Edits. March 2007. Based on case definitions as written in the: Health Canada. Case definitions for diseases under national surveillance. Can Commun Dis Rep. 2000; 26 Suppl 3:i-iv 1-122. Available from <http://www.phac-aspc.gc.ca/publicat/ccdr-rmtc/00pdf/cdr26s3e.pdf>.

**Date of Last Revision:** November 2008



# Appendix B: Provincial Case Definitions for Reportable Diseases

Disease: Smallpox

## Smallpox

### 1.0 Provincial Reporting

Confirmed, probable and suspect cases of disease

### 2.0 Type of Surveillance

Case-by-case

### 3.0 Case Classification

#### 3.1 Confirmed Case

Laboratory confirmation of infection with clinically compatible signs and symptoms:

- Detection of variola virus nucleic acid  
**OR**
- Isolation of variola virus from an appropriate clinical specimen (e.g., blood, vesicular fluid, scabs) followed by confirmation through detection of variola virus nucleic acid  
**OR**
- Detection of poxvirus particles in a clinical specimen by electron microscopy followed by confirmation through detection of variola virus nucleic acid

#### 3.2 Probable Case

Clinically compatible signs and symptoms in a person with an epidemiologic link to a laboratory-confirmed case

#### 3.3 Suspect Case

- Clinically compatible signs and symptoms in a person without an epidemiologic link  
**OR**
- Atypical lesion (illness) known to be associated with the variola virus on a person with an epidemiologic link

### 4.0 Laboratory Evidence

#### 4.1 Laboratory Confirmation

Any of the following will constitute a confirmed case of Smallpox:

- Positive variola virus culture
- Positive for variola virus nucleic acid

#### 4.2 Approved/Validated Tests

- Standard electron microscopy with negative staining (presumptive)
- Standard culture for variola virus
- NAT for variola virus
- PCR and sequence confirmation

#### 4.3 Indications and Limitations

- Any testing related to suspected smallpox should be carried out under level 4 containment facilities at National Microbiology Laboratory (NML)

- NML should be contacted for advice prior to sampling and transport of clinical specimens

### 5.0 Clinical Evidence

- Clinically compatible signs and symptoms are characterized by acute onset of fever of > 38.3° C followed by a rash involving vesicles or firm pustules in the same stage of development without other apparent cause
- Major distinguishing features include a febrile prodrome with a temperature of > 38.9° C and systemic symptoms (prostration, severe headache, backache, abdominal pain, or vomiting) 1-4 days before rash onset; lesions are deep, firm, well-circumscribed pustules (may be confluent or umbilicated).
- Other distinguishing features include rash concentrated on face and extremities, rash in same stage of evolution on any one part of the body, first lesions on oral mucosa/palate followed by centrifugal rash on face or forearm, and lesions on palms and soles (seen in > 50% of cases); lesions may itch at scabbing stage; lesions evolve from papule to pustule in days, illness lasts 14-21 days.
- Atypical presentations of smallpox include a) hemorrhagic lesions or b) flat velvety lesions not appearing as typical vesicles or not progressing to pustules

### 6.0 ICD Code(s)

ICD 10 Code B03

### 7.0 Comments

**Health units must contact the Public Health Division, MOHLTC immediately using the 24 hour emergency line (416) 212-6361 or (416) 212-6362, even in the event of a suspected case.**

Clinicians are strongly recommended to contact their local medical officer of health prior to collecting specimens on any suspect case of smallpox for laboratory diagnosis.

For information on clinical signs and symptoms of smallpox please see the fact sheet for healthcare professionals in Ontario issued by the Ministry of Health and Long-Term Care in January 2003. The fact sheet can be accessed via the following link:

<http://www.health.gov.on.ca/english/providers/pub/disease/smallpox.html>

### 8.0 References

- Ministry of Health and Long-Term Care, Public Health Division. iPHIS manual. Toronto, ON: Queen's Printer for Ontario; 2005.
- Nationally Notifiable Diseases Case Definitions with Canadian Public Health Laboratory Network (CPHLN) and Epidemiologic Group Draft Edits. March 2007. Based on case definitions as written in the: Health Canada. Case definitions for diseases under national surveillance. Can Commun Dis Rep. 2000; 26 Suppl 3:i-iv 1-122. Available from <http://www.phac-aspc.gc.ca/publicat/ccdr-rmtc/00pdf/cdr26s3e.pdf>.
- Ministry of Health and Long-Term Care. Diseases: Smallpox [Internet]. Toronto, ON: Queen's Printer for Ontario; 2003. [cited 2009 Feb 18]. Available from <http://www.health.gov.on.ca/english/providers/pub/disease/smallpox.html>.

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# Appendix B: Provincial Case Definitions for Reportable Diseases

Disease: Syphilis

Revised January, 2011

## Syphilis

### 1.0 Provincial Reporting

Confirmed cases of disease

### 2.0 Type of Surveillance

Case-by-case

### 3.0 Case Classification

#### 3.1 Confirmed Case-Primary Syphilis

Laboratory confirmation of infection:

- Identification of *T. pallidum* by dark-field microscopy, direct fluorescent antibody microscopy, nucleic acid testing, or equivalent examination of material from a chancre or a regional lymph node  
**OR**
- Presence of one or more typical lesions (chancres), and reactive treponemal serology, regardless of non-treponemal test reactivity, in individuals with no previous history of syphilis  
**OR**
- Presence of one or more typical lesions (chancres) and a significant (i.e., fourfold or greater) rise in the titre over the last known non-treponemal test in individuals with a past history of appropriate syphilis treatment

#### 3.2 Confirmed Case-Secondary Syphilis

Laboratory confirmation of infection:

- Identification of *T. pallidum* by dark-field microscopy, direct or indirect fluorescent antibody microscopy, nucleic acid amplification test (NAT) or equivalent examination of mucocutaneous lesions, condylomata lata and reactive serology (non-treponemal and treponemal),  
**OR**
- Presence of typical signs or symptoms of secondary syphilis (e.g., mucocutaneous lesions, alopecia, loss of eyelashes and lateral third of eyebrows, iritis, generalized lymphadenopathy, fever, malaise or splenomegaly) **and** either a reactive serology (non-treponemal and treponemal) or a significant (i.e., fourfold or greater) rise in titre of a non-treponemal test

#### 3.3 Confirmed Case-Early Latent Syphilis (<1 year after infection)

Laboratory confirmation of infection:

- An asymptomatic patient with reactive serology (treponemal and/or non-treponemal) who within the past 12 months had one of the following:
  - Non-reactive serology
  - Previous signs/symptoms suggestive of primary or secondary syphilis
  - Exposure to a sexual partner with primary, secondary or early latent syphilis

#### 3.4 Confirmed Case-Late Latent Syphilis (>1 year after infection or of unknown duration)

Laboratory confirmation of infection:

Infectious Diseases Protocol, 2009 – Appendix B

- An asymptomatic patient with persistently reactive treponemal serology (regardless of non-treponemal serology reactivity) who does not meet the criteria for early latent disease and who has not been previously treated adequately for syphilis

### 3.5 Confirmed Case-Neurosyphilis

#### 3.5.1 Infectious (<1 year after infection)

Laboratory confirmation of infection:

Fits the criteria in 3.1, 3.2 OR 3.3 above,

**AND** one of the following:

- Reactive cerebrospinal fluid – venereal diseases research laboratory (CSF-VDRL) in non-bloody cerebrospinal fluid (CSF)
- Clinical evidence of neurosyphilis and either elevated CSF leukocytes or elevated CSF protein in the absence of other known causes

#### 3.5.2 Non-infectious (>1 year after infection)

Laboratory confirmation of infection:

Reactive treponemal serology regardless of non-treponemal serology reactivity

**AND** one of the following:

- Reactive CSF-VDRL in non-bloody CSF
- Clinical evidence of neurosyphilis and either elevated CSF leukocytes or elevated CSF protein in the absence of other known causes

### 3.6 Confirmed Case-Early Congenital Syphilis (within 2 years of birth)

Laboratory confirmation of infection:

- Identification of *Treponema pallidum* by dark-field microscopy, direct fluorescent antibody microscopy or equivalent examination of material from nasal discharges, skin lesions, placenta, umbilical cord or autopsy material of a newborn (up to 4 weeks of age)  
**OR**
- Reactive serology (non-treponemal and treponemal) from venous blood (not cord blood) in an infant/child with clinical, laboratory or radiographic evidence of congenital syphilis  
**OR**
- Detection of *Treponema pallidum* deoxyribonucleic acid (DNA) in an appropriate clinical specimen

### 3.7 Confirmed Case-Tertiary Syphilis Other than Neurosyphilis

Laboratory confirmation of infection:

- Reactive treponemal serology (regardless of non-treponemal test reactivity) together with characteristic late abnormalities of the cardiovascular system, bone, skin or other structures, in the absence of other known causes of these abnormalities. (*T. pallidum* is rarely seen in these lesions, although when present, is considered diagnostic.)  
**AND**
- No clinical or laboratory evidence of neurosyphilis

## 4.0 Laboratory Evidence

### 4.1 Laboratory Confirmation

Any of the following will constitute a confirmed case of Syphilis:

Infectious Diseases Protocol, 2009 – Appendix B

- Detection of *T. pallidum* or its DNA by validated methods
- Reactive non-treponemal and treponemal serology
- Reactive treponemal serology regardless of non-treponemal serology in persons with no previous history of syphilis
- A significant (i.e., fourfold or greater) rise in non-treponemal titre

#### 4.2 Approved/Validated Tests

- Darkfield/direct fluorescent antibody microscopy for *T. pallidum*
- Non-treponemal tests (rapid plasma reagin [RPR], venereal diseases research laboratory [VDRL], unheated syphilis reagin [USR] test, toluidine red unheated serum reagin test [TRUST])
- Treponemal tests (treponema pallidum particle agglutination [TP-PA], fluorescent treponemal antibody absorbed [FTA-ABS], enzyme immunoassay [EIA], Western blot)
- NAT for *T. pallidum*

#### 4.3 Indications and Limitations

- Diagnosis of syphilis requires combination of history including epidemiologic risk factors or exposure, physical examination and laboratory tests as there is no single optimum diagnostic criterion
- Dark-field microscopy testing for *T. pallidum* is not reliable for oral/rectal lesions, as non-pathogenic treponemes may be present. Instead, direct fluorescent antibody test for *T. pallidum* should be used on such specimens
- Reliability of serological tests depends on the type of test and stage of disease.
- Non-treponemal tests have reduced sensitivity in primary syphilis and late latent syphilis

#### 5.0 Clinical Evidence

A clinical consultation is necessary for diagnosis

#### 6.0 ICD Code(s)

##### 6.1 ICD-10 Code(s)

###### **Primary Stage**

ICD 10 Code A51.2 Syphilis, Primary Other Sites

###### **Secondary Stage**

ICD 10 Code A51.4 Syphilis, Secondary, Other

###### **Early Latent**

ICD 10 Code A51.5 Syphilis Early Latent

###### **Late Latent**

ICD 10 Code A52.8 Syphilis, Late Latent

###### **Neurosyphilis, unspecified**

ICD 10 Code A52.3 Syphilis, Neurosyphilis, Unspecified

###### **Early Congenital Syphilis, Unspecified**

ICD 10 Code A50.2 Early Congenital Syphilis, Unspecified

#### 7.0 Comments

N/A

#### 8.0 References

- Public Health Agency of Canada. Canadian guidelines on sexually transmitted infections. Rev. ed. Ottawa: Public Health Agency of Canada; 2008. Available from [http://www.phac-aspc.gc.ca/std-mts/sti\\_2006/pdf/Guidelines\\_Eng\\_complete\\_06-26-08.pdf](http://www.phac-aspc.gc.ca/std-mts/sti_2006/pdf/Guidelines_Eng_complete_06-26-08.pdf).
- National Notifiable Diseases Surveillance System. Case Definitions. [Internet]. Syphilis (*Treponema pallidum*); 1996. Atlanta, GA: Centers for Disease Control and Prevention (CDC); 2008. [cited 2009 Feb 12]. Available from <http://www.cdc.gov/ncphi/diss/nndss/casedef/syphiliscurrent.htm>. See also: Syphilis, Congenital. Available from <http://www.cdc.gov/ncphi/diss/nndss/casedef/syphiliscurrent.htm>.
- Ministry of Health and Long-Term Care, Public Health Division. iPHIS manual. Toronto, ON: Queen's Printer for Ontario; 2005.
- Nationally Notifiable Diseases Case Definitions with Canadian Public Health Laboratory Network (CPHLN) and Epidemiologic Group Draft Edits. March 2007. Based on case definitions as written in the: Health Canada. Case definitions for diseases under national surveillance. Can Commun Dis Rep. 2000; 26 Suppl 3:i-iv 1-122. Available from <http://www.phac-aspc.gc.ca/publicat/ccdr-rmtc/00pdf/cdr26s3e.pdf>.



# Appendix B: Provincial Case Definitions for Reportable Diseases

Disease: Tetanus

# Tetanus

## 1.0 Provincial Reporting

Confirmed cases of disease

## 2.0 Type of Surveillance

Case-by-case

## 3.0 Case Classification

### 3.1 Confirmed Case

Clinically compatible signs and symptoms with or without evidence of injury:

- Without laboratory evidence and without other apparent medical cause
- **OR**
- With isolation of *Clostridium tetani* from wound site

## 4.0 Laboratory Evidence

### 4.1 Laboratory Confirmation

The following will constitute a confirmed case Tetanus:

- Positive *C. tetani* culture

### 4.2 Approved/Validated Tests

- Standard culture for *C. tetani*
- Consult with laboratory about appropriate specimens for each testing methodology

### 4.3 Indications and Limitations

- Detection of *C. tetani* toxin should not be considered among the list of diagnostic methods for confirmation of tetanus since this is not available / in use
- Confirmation of causative agent is infrequently made by culture

## 5.0 Clinical Evidence

Clinically compatible signs and symptoms are characterized by 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.

## 6.0 ICD Code(s)

### 6.1 ICD-10 Code(s)

A35 Tetanus

### 6.2 ICD-9/ICD-9CM Code(s)

037 Tetanus

## 7.0 Comments

A negative test does not exclude a diagnosis of tetanus

## 8.0 References

- Ministry of Health and Long-Term Care, Public Health Division. iPHIS manual. Toronto, ON: Queen's Printer for Ontario; 2005.
- Nationally Notifiable Diseases Case Definitions with Canadian Public Health Laboratory Network (CPHLN) and Epidemiologic Group Draft Edits. March 2007. Based on case definitions as written in the: Health Canada. Case definitions for diseases under national surveillance. Can Commun Dis Rep. 2000; 26 Suppl 3:i-iv 1-122. Available from <http://www.phac-aspc.gc.ca/publicat/ccdr-rmtc/00pdf/cdr26s3e.pdf>.

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# Appendix B: Provincial Case Definitions for Reportable Diseases

Disease: Transmissible Spongiform Encephalopathy, including:  
i) Creutzfeldt-Jakob Disease, all types; ii) Gerstmann-Sträussler-Scheinker Syndrome; iii) Fatal Familial Insomnia, and iv) Kuru

**Transmissible Spongiform Encephalopathy, including: i) Creutzfeldt-Jakob Disease, all types; ii) Gerstmann-Sträussler-Scheinker Syndrome; iii) Fatal Familial Insomnia, and iv) Kuru**

## **Sporadic Creutzfeldt-Jakob Disease (sCJD)**

### **1.0 Provincial Reporting**

Confirmed, probable and suspect cases

### **2.0 Type of Surveillance**

Case-by -case

### **3.0 Case Classification**

#### **3.1 Confirmed Case**

- Neuropathologically / immunocytochemically confirmed: confirmation of protease-resistant prion protein (immunocytochemistry or Western Blot).

#### **3.2 Probable Case**

- Rapidly progressive dementia  
**AND**
- At least two additional neurological manifestations (See Section 5.0 – Clinical Evidence)  
**AND**
- Typical electroencephalography (EEG): generalized bilateral or unilateral triphasic periodic complexes at approximately one per second, lasting continuously for at least 10 seconds.

**OR**

- Suspect sporadic CJD  
**AND**  
Positive assay for 14-3-3 in cerebrospinal fluid (CSF)

#### **3.3 Suspect Case**

- Rapidly progressive dementia  
**AND**
- At least two additional neurological manifestations (See Section 5.0 – Clinical Evidence)  
**AND**
- Duration of illness less than 2 years

### **4.0 Laboratory Evidence**

#### **4.1 Laboratory Confirmation**

The following will constitute a confirmed case of Sporadic Creutzfeldt-Jakob Disease

- Neuropathological confirmation of protease-resistant prion protein (immunocytochemistry *in situ* or *via* PET blot; or Western Blot).

#### 4.2 Approved/Validated Tests

- Immunocytochemistry (*in situ* or PET blot variants) demonstrating prion protein immunoreactivity (plaque and/or diffuse synaptic and/or perivacuolar): confirmatory (if positive)
- PrP Western blot: confirmatory (if positive)
- Electron microscopy for scrapie-associated fibrils (SAF): confirmatory (if positive)
- Histopathology to demonstrate spongiform encephalopathy in cerebral and/or cerebellar cortex and/or subcortical grey matter: supportive (if positive)
- *PRNP* gene sequencing: supportive (if negative)
- CSF 14-3-3 Western blot: supportive (if positive)

#### 4.3 Indications and Limitations

- Histopathologic evidence of spongiform change is no longer considered sufficient in itself for diagnostic confirmation of TSE.
- Demonstration of scrapie-associated fibrils (SAF) by electron microscopy, although historically important, is rarely undertaken for human diagnostic purposes.
- Absence of a known pathogenic mutation causative for genetic TSE supports a diagnosis of sCJD.
- Because of limited diagnostic specificity, the CSF 14-3-3 assay is restricted to a supporting role in the diagnosis of probable sCJD.

#### 5.0 Clinical Evidence

Additional neurological manifestations include:

- Myoclonus
- Visual or cerebellar disturbances such as ataxia
- Pyramidal or extrapyramidal features
- Akinetic mutism

A clinical consultation is necessary for diagnosis

#### 6.0 ICD Code (s)

ICD 10 Code A81.0

#### 7.0 Comments

N/A

#### 8.0 References

- Ministry of Health and Long-Term Care, Public Health Division. iPHIS manual. Toronto, ON: Queen's Printer for Ontario; 2005.
- Heymann D, editor. Control of communicable diseases manual. 18th ed. Washington: American Public Health Association; 2004.
- Nationally Notifiable Diseases Case Definitions with Canadian Public Health Laboratory Network (CPHLN) and Epidemiologic Group Draft Edits. March 2007. Based on case definitions as written in the: Health Canada. Case definitions for diseases under national surveillance. Can Commun Dis Rep. 2000; 26 Suppl 3:i-iv 1-122. Available from <http://www.phac-aspc.gc.ca/publicat/ccdr-rmtc/00pdf/cdr26s3e.pdf>.
- National CJD Surveillance Unit (NCJDSU).[Internet] National Creutzfeldt-Jakob Disease surveillance protocol. Diagnostic Criteria. University of Edinburgh. [cited 2009 Feb 1]. Available from <http://www.cjd.ed.ac.uk/criteria.htm>

## Iatrogenic TSE (Accidentally transmitted TSE)

### 1.0 Provincial Reporting

Confirmed and probable cases

### 2.0 Type of Surveillance

Case-by -case

### 3.0 Case Classification

#### 3.1 Confirmed Case

- Confirmed TSE similar to sporadic CJD, with a recognized iatrogenic factor. (See Section 7.0 - Comments for further details)

#### 3.2 Probable Case

- Progressive predominant cerebellar syndrome in human pituitary hormone recipients  
**OR**
- Probable TSE similar to sporadic CJD, with recognized iatrogenic risk factor (See Section 7.0 - Comments for further details)

### 4.0 Laboratory Evidence

#### 4.1 Laboratory Confirmation

The following will constitute a confirmed case of Iatrogenic TSE

- Neuropathological confirmation of protease-resistant prion protein (immunocytochemistry *in situ* or *via* PET blot; or Western Blot).

#### 4.2 Approved/Validated Tests

- Immunocytochemistry (*in situ* or PET blot variants) demonstrating prion protein immunoreactivity (plaque and/or diffuse synaptic and/or perivacuolar): confirmatory (if positive)
- Electron microscopy for scrapie-associated fibrils (SAF): confirmatory (if positive)
- PrP-res Western blot: confirmatory (if positive)
- Histopathology to demonstrate spongiform encephalopathy in cerebral and/or cerebellar cortex and/or subcortical grey matter: supportive (if positive)
- *PRNP* gene sequencing: supportive (if negative)
- CSF 14-3-3 Western blot: supportive (if positive)

#### 4.3 Indications and Limitations

- Histopathologic evidence of spongiform change is no longer considered sufficient in itself for diagnostic confirmation of TSE.
- Demonstration of scrapie-associated fibrils (SAF) by electron microscopy, although historically important, is rarely undertaken for human diagnostic purposes.
- Absence of a known pathogenic mutation causative for genetic TSE supports a diagnosis of accidentally transmitted CJD.
- Because of limited diagnostic specificity, the CSF 14-3-3 assay is restricted to a supporting role in the diagnosis of probable Sporadic CJD.

## 5.0 Clinical Evidence

Neurological manifestations include:

- Rapidly progressive dementia
- Myoclonus
- Visual or cerebellar disturbances such as ataxia
- Pyramidal or extrapyramidal features
- Akinetic mutism

A clinical consultation is necessary for diagnosis

## 6.0 ICD Code (s)

ICD 10 Code A81.0

## 7.0 Comments

Relevant exposure risks for classification as accidentally transmitted CJD:

- Treatment with human pituitary growth hormone, human pituitary gonadotrophin or human dura mater graft.
- Corneal graft in which the corneal donor has been classified as definite or probable human prion disease.
- Exposure to neurosurgical instruments previously used in a case of definite or probable human prion disease.

Note:

i) The relevance of any exposure to disease causation must take into account the timing of exposure in relation to disease onset.

ii) The above list is provisional as previously unrecognized mechanisms of human prion disease may occur.

## 8.0 References

- Ministry of Health and Long-Term Care, Public Health Division. iPHIS manual. Toronto, ON: Queen's Printer for Ontario; 2005.
  - Heymann D, editor. Control of communicable diseases manual. 18th ed. Washington: American Public Health Association; 2004.
  - Nationally Notifiable Diseases Case Definitions with Canadian Public Health Laboratory Network (CPHLN) and Epidemiologic Group Draft Edits. March 2007. Based on case definitions as written in the: Health Canada. Case definitions for diseases under national surveillance. Can Commun Dis Rep. 2000; 26 Suppl 3:i-iv 1-122. Available from <http://www.phac-aspc.gc.ca/publicat/ccdr-rmtc/00pdf/cdr26s3e.pdf>.
  - National CJD Surveillance Unit (NCJDSU).[Internet] National Creutzfeldt-Jakob Disease surveillance protocol. Diagnostic Criteria. University of Edinburgh. [cited 2009 Feb 1]. Available from <http://www.cjd.ed.ac.uk/criteria.htm>.
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# Genetic TSE - includes genetic forms of CJD; Gerstmann-Sträussler-Scheinker syndrome (GSS); and Fatal Familial Insomnia (FFI)

## 1.0 Provincial Reporting

Confirmed and probable cases

## 2.0 Type of Surveillance

Case-by -case

## 3.0 Case Classification

### 3.1 Confirmed Case

- Confirmed TSE  
**AND**
- Confirmed or probable TSE in a first-degree relative

**OR**

- Confirmed TSE  
**AND**
- Pathogenic *PRNP* mutation (See Section 7.0 – Comments for further discussion of *PRNP* mutations and their associated phenotypes)

### 3.2 Probable Case

- Progressive neuropsychiatric disorder  
**AND**
- Confirmed or probable TSE in a first-degree relative

**OR**

- Progressive neuropsychiatric disorder  
**AND**
- Pathogenic *PRNP* mutation (See Section 7.0 – Comments for further discussion of *PRNP* mutations and their associated phenotypes)

## 4.0 Laboratory Evidence

### 4.1 Laboratory Confirmation

The following will constitute a confirmed case of Genetic TSE:

- Confirmation of protease-resistant prion protein (immunocytochemistry *in situ* or *via* PET blot; or Western Blot).

### 4.2 Approved/Validated Tests

- Immunocytochemistry (*in situ* or PET blot variants): confirmatory (if positive)
- Electron microscopy for scrapie-associated fibrils (SAF): confirmatory (if positive)
- PrP Western blot: confirmatory (if positive)
- Histopathology to demonstrate spongiform encephalopathy in cerebral and/or cerebellar cortex and/or subcortical grey matter: supportive (if positive)
- *PRNP* gene sequencing: supportive (if positive)
- CSF 14-3-3 Western blot: supportive (if positive)

### 4.3 Indications and Limitations

- Histopathologic evidence of spongiform change is no longer considered sufficient in itself for diagnostic confirmation of TSE.

- Demonstration of scrapie-associated fibrils (SAF) by electron microscopy, although historically important, is rarely undertaken for human diagnostic purposes.
- Because of problems with diagnostic specificity, the CSF 14-3-3 assay is restricted to a supporting role in the diagnosis of probable Sporadic CJD.

## 5.0 Clinical Evidence

Neurological manifestations include:

- Rapidly progressive dementia
- Myoclonus
- Visual or cerebellar disturbances such as ataxia
- Pyramidal or extrapyramidal features
- Akinetic mutism

A clinical consultation is necessary for diagnosis

## 6.0 ICD Code (s)

ICD 10 Code A81.0

## 7.0 Comments

### 7.1 Genetic Prion Disease

a) *PRNP* mutations associated with a neuropathologic phenotype of Creutzfeldt-Jakob disease (CJD): R148H; D178N on 129V allele; V180I; V180I + M232R; T183A; T188A; E196K; E200K; V203I; R208H; V210I; E211Q; M232R; octapeptide repeat insertions 96 bp, 120 bp, 144 bp, 168 bp and deletion 48 bp

b) *PRNP* mutations associated with a neuropathologic phenotype of Gerstmann-Sträussler-Scheinker disease (GSS; see note a above): P102L; P105L; A117V; G131V; F198S; D202N; Q212P; Q217R; M232T; octapeptide repeat insertion 192 bp

c) *PRNP* mutations associated with a neuropathologic phenotype of Familial Fatal Insomnia (FFI): D178N on 129M allele

d) *PRNP* mutations associated with other neuropathologic phenotypes: I138M; G142S; Y145Stop; Q160S; H187R; T188K; M232R; octapeptide repeat insertions 24 bp, 48 bp

e) The pathology findings in genetic TSE are quite variable. However, presence of multicentric plaques by histopathology, PAS strain or prion protein immunocytochemistry in cerebral and/or cerebellar cortex, with neuron loss and spongiosis, is considered diagnostic of GSS. Other large amorphous plaques or neurofibrillary tangles immunoreactive for PrP have been described in subsets of GSS but these are associated with less-frequent *PRNP* mutations (A117V and F198S). Florid or Kuru plaques are not considered diagnostic for GSS.

## 8.0 References

- Ministry of Health and Long-Term Care, Public Health Division. iPHIS manual. Toronto, ON: Queen's Printer for Ontario; 2005.
- Heymann D, editor. Control of communicable diseases manual. 18th ed. Washington: American Public Health Association; 2004.
- Nationally Notifiable Diseases Case Definitions with Canadian Public Health Laboratory Network (CPHLN) and Epidemiologic Group Draft Edits. March 2007. Based on case definitions as written in the: Health Canada. Case definitions for diseases under national surveillance. Can Commun Dis Rep. 2000; 26 Suppl 3:i-

iv 1-122. Available from <http://www.phac-aspc.gc.ca/publicat/ccdr-rmtc/00pdf/cdr26s3e.pdf>.

- National CJD Surveillance Unit (NCJDSU).[Internet] National Creutzfeldt-Jakob Disease surveillance protocol. Diagnostic Criteria. University of Edinburgh. [cited 2009 Feb 1]. Available from <http://www.cjd.ed.ac.uk/criteria.htm>.

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## **Variant Creutzfeldt-Jakob Disease (vCJD)**

### **1.0 Provincial Reporting**

Confirmed, probable and suspect cases

### **2.0 Type of Surveillance**

Case-by -case

### **3.0 Case Classification**

#### **3.1 Confirmed Case**

- Progressive neuropsychiatric disorder  
**AND**
- Neuropathological confirmation of vCJD: spongiform change and extensive prion protein (PrP) deposition with florid plaques, throughout the cerebrum and cerebellum

#### **3.2 Probable Case**

- Progressive neuropsychiatric disorder of duration >6 months, where routine investigations do not suggest an alternative diagnosis and there is no evidence of iatrogenic exposure or a genetic form of TSE  
**AND**
- Four out of five from Section 5.2  
**AND**
- Electroencephalography (EEG) does not show typical appearance of sporadic CJD: generalized triphasic periodic complexes at approximately one per second; or no EEG performed  
**AND**
- MRI brain scan shows bilateral symmetrical pulvinar high signal, relative to the signal intensity of other deep gray-matter nuclei and cortical gray matter  
**OR**
- Progressive neuropsychiatric disorder of duration >6 months, where routine investigations do not suggest an alternative diagnosis and there is no evidence of iatrogenic exposure or evidence of a genetic form of TSE  
**AND**
- Positive tonsil biopsy

#### **3.3 Suspect Case**

- Progressive neuropsychiatric disorder of duration >6 months, where routine investigations do not suggest an alternative diagnosis and there is no evidence of iatrogenic exposure or evidence of a genetic form of TSE  
**AND**
- Four out of five from Section 5.2  
**AND**

- Electroencephalography (EEG) does not show typical appearance of sporadic CJD: generalized triphasic periodic complexes at approximately one per second; or no EEG performed

#### 4.0 Laboratory Evidence

##### 4.1 Laboratory Confirmation

The following will constitute a confirmed case of Variant Creutzfeldt-Jakob disease:

- Spongiform change and extensive prion protein (PrP) deposition with florid plaques, throughout the cerebrum and cerebellum

##### 4.2 Approved/Validated Tests

- Immunocytochemistry (*in situ* or PET blot variants): confirmatory (if positive)
- Electron microscopy for scrapie-associated fibrils (SAF): confirmatory (if positive)
- PrP Western blot: confirmatory (if positive)
- Histopathology to demonstrate spongiform encephalopathy in cerebral and/or cerebellar cortex and/or subcortical grey matter: supportive (if positive)
- *PRNP* gene sequencing: supportive (if homozygous Met/Met at codon 129)
- CSF 14-3-3 Western blot: supportive (if positive)

##### 4.3 Indications and Limitations

- Histopathologic evidence of spongiform change is no longer considered sufficient for diagnostic confirmation of TSE.
- All known clinical cases of vCJD have been homozygous Met/Met at codon 129 of the *PRNP* gene.
- Because of problems with diagnostic sensitivity, the role of CSF 14-3-3 assay in diagnosis of vCJD has not yet been formalized.
- The EEG has been described as “typical” in a small number (fewer than 1%) of vCJD cases.

#### 5.0 Clinical Evidence

##### 5.1 A Progressive neuropsychiatric disorder

- B Duration of illness > 6 months
- C Routine investigations do not suggest an alternative diagnosis
- D No history of potential iatrogenic exposure
- E No evidence of a familial form of TSE

##### 5.2 A Early psychiatric symptoms (e.g., depression, anxiety, apathy, withdrawal, delusions)

- B Persistent painful sensory symptoms. This includes frank pain and/or dysaesthesia
- C Ataxia
- D Myoclonus or chorea or dystonia
- E Dementia

##### 5.3 A EEG does not show the typical appearance of sporadic CJD: generalized bilateral or unilateral triphasic periodic complexes at approximately one per second, [lasting] continuously for at least 10 seconds; or no EEG performed

- B MRI brain scan shows bilateral symmetrical pulvinar high signal - relative to the signal intensity of other deep gray-matter nuclei and cortical gray matter

#### 5.4 A Positive tonsil biopsy

A clinical consultation is necessary for diagnosis

#### 6.0 ICD Code (s)

ICD 10 Code A81.0

#### 7.0 Comments

#### 8.0 References

- Ministry of Health and Long-Term Care, Public Health Division. iPHIS manual. Toronto, ON: Queen's Printer for Ontario; 2005.
- Heymann D, editor. Control of communicable diseases manual. 18th ed. Washington: American Public Health Association; 2004.
- Nationally Notifiable Diseases Case Definitions with Canadian Public Health Laboratory Network (CPHLN) and Epidemiologic Group Draft Edits. March 2007. Based on case definitions as written in the: Health Canada. Case definitions for diseases under national surveillance. Can Commun Dis Rep. 2000; 26 Suppl 3:i-iv 1-122. Available from <http://www.phac-aspc.gc.ca/publicat/ccdr-rmtc/00pdf/cdr26s3e.pdf>.
- National CJD Surveillance Unit (NCJDSU).[Internet] National Creutzfeldt-Jakob Disease surveillance protocol. Diagnostic Criteria. University of Edinburgh. [cited 2009 Feb 1]. Available from <http://www.cjd.ed.ac.uk/criteria.htm>.

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#### Kuru

While most neurologic features correspond to those of CJD with plaques, Kuru should be diagnosed only in members of the Fore population in Papua New Guinea.

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# Appendix B: Provincial Case Definitions for Reportable Diseases

Disease: Trichinosis

## Trichinosis

### 1.0 Provincial Reporting

Confirmed and probable cases of disease

### 2.0 Type of Surveillance

Case-by-case

### 3.0 Case Classification

#### 3.1 Confirmed Case

Laboratory confirmation of infection with clinically compatible signs and symptoms:

- Demonstration of *Trichinella spiralis* in a muscle biopsy
- OR
- Positive serology

#### 3.2 Probable Case

Clinically compatible signs and symptoms in a person with an epidemiologic link to a laboratory-confirmed case or to a confirmed food source (e.g., meat known to contain *Trichinella* larvae)

### 4.0 Laboratory Evidence

#### 4.1 Laboratory Confirmation

Any of the following will constitute a confirmed case of Trichinosis:

- Demonstration of *Trichinella* larvae in tissue obtained by muscle biopsy
- OR
- Positive serologic test for *Trichinella*

#### 4.2 Approved/Validated Tests

- Parasitological tests (i.e., smear from infected meat).
- Microscopic examination of muscle biopsy pressed between 2 glass plates for *Trichinella* larvae
- Microscopic examination of enzyme digested biopsy material for *Trichinella* larvae
- Serological tests (i.e., complement fixation [CF])

#### 4.3 Indications and Limitations

- Presence of larvae in biopsies indicates definitive evidence of infection but microscopy is time consuming, especially in a low infection, and a negative result is not conclusive.
- Only serum samples are suitable for serology

### 5.0 Clinical Evidence

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.

## 6.0 ICD Code(s)

ICD 10 Code B75

## 7.0 Comments

N/A

## 8.0 References

- Acha PN, Szyfres B. Zoonoses and communicable diseases common to man and animals. 3<sup>rd</sup> ed. Volume III. Parasitoses. Washington DC: Pan American Health Organization; 2003.
- National Notifiable Diseases Surveillance System. Case Definitions. [Internet]. Trichinosis; 1996. Atlanta, GA: Centers for Disease Control and Prevention (CDC); 2008. [cited 2009 Feb 12]. Available from [http://www.cdc.gov/ncphi/diss/nndss/casedef/trichinosis\\_current.htm](http://www.cdc.gov/ncphi/diss/nndss/casedef/trichinosis_current.htm).
- Heymann D, editor. Control of communicable diseases manual. 18th ed. Washington: American Public Health Association; 2004.
- Ministry of Health and Long-Term Care, Public Health Division. iPHIS manual. Toronto, ON: Queen's Printer for Ontario; 2005.

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# Appendix B: Provincial Case Definitions for Reportable Diseases

Disease: Tuberculosis

## Tuberculosis

### 1.0 Provincial Reporting

Confirmed and suspect cases of disease

### 2.0 Type of Surveillance

Case-by-case

### 3.0 Case Classification

#### 3.1 Confirmed case

- Isolation by culture from an appropriate clinical specimen (e.g., sputum, tissue).  
**OR**
- In the absence of bacteriological proof, cases clinically compatible with active tuberculosis that have:
  - i. Radiological changes compatible with active tuberculosis  
**AND**
  - ii. Histopathologic or post-mortem evidence of active tuberculosis  
**OR**
  - iii. Response to anti-tuberculous treatment

#### 3.2 Suspect case

Signs and symptoms compatible with active disease

**AND**

- Radiological findings suggestive of active disease  
**OR**
- Demonstration of acid-fast bacillus (AFB) in clinical specimen  
**OR**
- Detection of MTB complex by nucleic acid amplification test (NAT)  
**OR**
- Histopathology suggestive of MTB disease

### 4.0 Laboratory Evidence

#### 4.1 Laboratory Confirmation

Any of the following will constitute a confirmed case of Tuberculosis:

- Positive culture of MTB complex (*M. tuberculosis*, *M. tuberculosis* subsp. *Canetti*, *M. africanum*, *M. caprae*, *M. microti*, *M. pinnipedii*, or *M. bovis*, excluding BCG strain)

#### 4.2 Approved/Validated Tests

- Standard culture for MTB complex
- Biochemical tests to differentiate between *M. bovis* and *M. bovis* BCG
- AFB smear
- NAT for MTB complex

### 4.3 Indications and Limitations

- Direct NAT is used for smear positive and smear negative respiratory specimens. However, a negative NAT result does not rule out MTB complex.
- Direct NAT for MTB may be useful in extrapulmonary TB but it is not approved for this purpose.
- Direct NAT for MTB has the potential for false positive results; therefore direct NAT positive results should be confirmed by culture when possible.

### 5.0 Clinical Evidence

- Clinically compatible signs and symptoms of active tuberculosis include but are not limited to cough, chest pain, fevers, night sweats, and weight loss. Active extrapulmonary tuberculosis (e.g., meningeal, bone, kidney, peripheral lymph nodes) consists of signs or symptoms referable to the extrapulmonary organ involved, and histopathologic or post-mortem evidence of active tuberculosis.
- MTB complex comprises *M. tuberculosis*, including *M. tuberculosis* subsp *canetti*, *M. bovis* (including BCG strain, though this strain is not included in the case definition of tuberculosis), *M. africanum*, *M. caprae*, *M. microti*, and *M. pinnipedii*. New species may be added with the progress of scientific development in the field.

### 6.0 ICD Code(s)

#### ICD-10 Code(s)

#### Respiratory tuberculosis

- ICD 10 Code A15.0 Tuberculosis of Lung
- ICD 10 Code A15.4 Tuberculosis of Intrathoracic Lymph Nodes
- ICD 10 Code A15.5 Tuberculosis of Larynx, Trachea and Bronchus
- ICD 10 Code A15.6 Tuberculous Pleurisy
- ICD 10 Code A15.7 Primary Respiratory Tuberculosis
- ICD 10 Code A15.8 Other Respiratory Tuberculosis
- ICD 10 Code 15.9 Respiratory Tuberculosis Unspecified

#### Tuberculosis of nervous system

- ICD 10 Code 17.0 Tuberculous Meningitis
- ICD 10 Code 17.1 Meningeal Tuberculoma
- ICD 10 Code 17.8 Other Tuberculosis of Nervous System
- ICD 10 Code 17.9 Tuberculosis of Nervous System, Unspecified

#### Tuberculosis of other organs

- ICD 10 Code 18.0 Tuberculosis of Bones and Joints
- ICD 10 Code 18.1 Tuberculosis of Genitourinary System
- ICD 10 Code 18.2 Tuberculosis Peripheral Lymphadenopathy
- ICD 10 Code 18.3 Tuberculosis of Intestines, Peritoneum and Mesenteric Lymph Nodes
- ICD 10 Code 18.4 Tuberculosis of Skin and Subcutaneous Tissue
- ICD 10 Code 18.5 Tuberculosis of Eye
- ICD 10 Code 18.6 Tuberculosis of Ear
- ICD 10 Code 18.7 Tuberculosis of Adrenal Glands
- ICD 10 Code 18.8 Tuberculosis of Other Specified Organs
- ICD 10 Code 19.0 Acute Miliary Tuberculosis of a Single Specified Site

#### Miliary tuberculosis

- ICD 10 Code 19.1 Acute Miliary Tuberculosis of Multiple Sites
- ICD 10 Code 19.2 Acute Miliary Tuberculosis, Unspecified

- iii. **ICD 10 Code 19.8** Other Miliary Tuberculosis
- iv. **ICD 10 Code 19.9** Miliary Tuberculosis, Unspecified

## 7.0 Comments

A case should not be counted twice within any consecutive 12-month period, unless a second genotype is detected.

**Confirmed cases must fall into one of the following staging categories:**

### 1) **New Active Case**

A confirmed case who has no documented evidence or history of previously active tuberculosis.

### 2) **Reactivated Case**

A confirmed case with documented evidence or history of previously active tuberculosis which became inactive\*. If genotyping on the new strain confirms it to be different from the original strain, then this would be considered a 'new active case'.

\*Inactive tuberculosis

- Two chest radiographs with stable appearance documented over an interval of 3 months and three negative sputum smears and cultures.  
**OR**
- In the absence of cultures, chest radiographs are stable for a minimum of six months and the individual has been asymptomatic for six months after completion of treatment;  
**OR**
- Cultures for MTB complex are negative at the completion of treatment and for six months thereafter.

## 8.0 References

- Ministry of Health and Long-Term Care, Public Health Division. iPHIS manual. Toronto, ON: Queen's Printer for Ontario; 2005.
- Nationally Notifiable Diseases Case Definitions with Canadian Public Health Laboratory Network (CPHLN) and Epidemiologic Group Draft Edits. March 2007. Based on case definitions as written in the: Health Canada. Case definitions for diseases under national surveillance. Can Commun Dis Rep. 2000; 26 Suppl 3:i-iv 1-122. Available from <http://www.phac-aspc.gc.ca/publicat/ccdr-rmtc/00pdf/cdr26s3e.pdf>.

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# Appendix B: Provincial Case Definitions for Reportable Diseases

Disease: Tularemia

## Tularemia

### 1.0 Provincial Surveillance

Confirmed and probable cases of disease

### 2.0 Type of Surveillance

Case-by-case

### 3.0 Case Classification

#### 3.1 Confirmed Case

Laboratory confirmation of infection with clinically compatible signs and symptoms:

- Isolation of *Francisella tularensis* from an appropriate clinical specimen (e.g., blood, sputum)
- OR**
- A significant (i.e., fourfold or greater) rise in serum antibody titre to *F. tularensis* antigen

#### 3.2 Probable Case

Laboratory confirmation of infection with clinically compatible signs and symptoms:

- Detection of *F. tularensis* in a clinical specimen (e.g., lymph node aspirates, ulcer exudate) by fluorescent assay
- OR**
- Detection of *F. tularensis* nucleic acid
- OR**
- $\geq 1:128$  microagglutination titre or  $\geq 1:160$  tube agglutination in a single serum specimen

### 4.0 Laboratory Evidence

#### 4.1 Laboratory Confirmation

Any of the following will constitute a confirmed case of Tularemia:

- A significant (i.e., fourfold or greater) rise in *F. tularensis* antibody titre
- Positive *F. tularensis* culture with confirmation (See Section 4.2)

#### 4.2 Approved/Validated Tests

- *F. tularensis* serology
- Standard culture for *F. tularensis*
- Direct fluorescent antibody (DFA) for *F. tularensis* cellular antigens
- *F. tularensis* NAT
- Slide agglutination for *F. tularensis*
- Confirmatory methods include DFA, nucleic acid amplification test (NAT), and slide agglutination

#### 4.3 Indications and Limitations

- Additional tests may include DFA and NAT for *F. tularensis* based on availability

## 5.0 Clinical Evidence

- Clinically compatible signs and symptoms are characterized by several distinct forms, including the following: ulceroglandular –cutaneous ulcer with regional lymphadenopathy; glandular – regional lymphadenopathy with no ulcer; oculoglandular – conjunctivitis with preauricular lymphadenopathy; oropharyngeal – stomatitis or pharyngitis, or tonsillitis and cervical lymphadenopathy; intestinal – intestinal pain, vomiting, and diarrhea; pneumonic – primary pleuropulmonary disease; typhoidal – febrile illness without early localizing signs and symptoms.
- Clinical diagnosis is supported by evidence or history of a tick or deerfly bite, exposure to the tissues of a mammalian host of *Francisella tularensis*, or exposure to potentially contaminated water

## 6.0 ICD Code(s)

ICD 10 Code A21

## 7.0 Comments

N/A

## 8.0 References

- Acha PN, Szyfres B. Zoonoses and communicable diseases common to man and animals. 3<sup>rd</sup> ed. Volume I. Bacterioses and mycoses. Washington DC: Pan American Health Organization; 2003.
- National Notifiable Diseases Surveillance System. Case Definitions. [Internet]. Tularemia; 1999. Atlanta, GA: Centers for Disease Control and Prevention (CDC); 2008. [cited 2009 Feb 12]. Available from [http://www.cdc.gov/ncphi/diss/nndss/casedef/tularemia\\_current.htm](http://www.cdc.gov/ncphi/diss/nndss/casedef/tularemia_current.htm).
- Heymann D, editor. Control of communicable diseases manual. 18th ed. Washington: American Public Health Association; 2004.
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- Nationally Notifiable Diseases Case Definitions with Canadian Public Health Laboratory Network (CPHLN) and Epidemiologic Group Draft Edits. March 2007. Based on case definitions as written in the: Health Canada. Case definitions for diseases under national surveillance. Can Commun Dis Rep. 2000; 26 Suppl 3:i-iv 1-122. Available from <http://www.phac-aspc.gc.ca/publicat/ccdr-rmtc/00pdf/cdr26s3e.pdf>.

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# Appendix B: Provincial Case Definitions for Reportable Diseases

Disease: Typhoid Fever

## Typhoid Fever

### 1.0 Provincial Reporting

Confirmed and probable cases of disease

### 2.0 Type of Surveillance

Case-by -case

### 3.0 Case Classification:

#### 3.1 Confirmed Case

Laboratory confirmation of infection with or without clinically compatible signs and symptoms:

- Isolation of *Salmonella* Typhi from an appropriate clinical specimen (e.g., sterile site, deep tissue wound, stool, vomit, urine)

#### 3.2 Probable Case

Clinically compatible signs and symptoms in a person with an epidemiologic link to a laboratory-confirmed case

### 4.0 Laboratory Evidence

#### 4.1 Laboratory Confirmation

The following will constitute a confirmed case of Typhoid fever:

- Positive *S. Typhi* culture

#### 4.2 Approved/Validated Tests

- Standard culture for *S. Typhi*
- Serotyping for O, H and Vi antigens

#### 4.3 Indications and Limitations

- Further strain characterization is indicated for public health purposes

### 5.0 Clinical Evidence

Clinically compatible signs and symptoms are characterized by insidious onset of sustained fever, headache, malaise, anorexia, relative bradycardia, constipation, or diarrhea.

### 6.0 ICD Code (s)

ICD 10 Code A01.0

### 7.0 Comments

N/A

### 8.0 References

- Heymann D, editor. Control of communicable diseases manual. 18th ed. Washington: American Public Health Association; 2004.
- Ministry of Health and Long-Term Care, Public Health Division. iPHIS manual. Toronto, ON: Queen's Printer for Ontario; 2005.

- Nationally Notifiable Diseases Case Definitions with Canadian Public Health Laboratory Network (CPHLN) and Epidemiologic Group Draft Edits. March 2007. Based on case definitions as written in the: Health Canada. Case definitions for diseases under national surveillance. Can Commun Dis Rep. 2000; 26 Suppl 3:i-iv 1-122. Available from <http://www.phac-aspc.gc.ca/publicat/ccdr-rmtc/00pdf/cdr26s3e.pdf>.

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# Appendix B: Provincial Case Definitions for Reportable Diseases

Disease: Verotoxin-producing *E. coli* infection indicator conditions, including Haemolytic Uraemic Syndrome (HUS)

## Verotoxin-producing *E. coli* infection indicator conditions, including Haemolytic Uraemic Syndrome (HUS)

### 1.0 Provincial Reporting

Confirmed and probable cases of disease

### 2.0 Type of Surveillance

Case-by-case

### 3.0 Case Classification

#### 3.1 Confirmed Case

Laboratory confirmation of infection with or without clinically compatible signs and symptoms:

- Isolation of Verotoxin producing *Escherichia coli* (VTEC) from an appropriate clinical specimen (e.g., stool, urine, blood)

**OR**

- Detection of verotoxin antigen or nucleic acid from an appropriate clinical specimen (e.g., stool, urine, blood)

#### 3.2 Probable Case

- Clinically compatible signs and symptoms in a person with an epidemiologic link to a laboratory-confirmed case

**OR**

- Haemolytic uraemic syndrome (HUS) diagnosed by a physician and not caused by defects in serum complement, chemotherapy, immunosuppressants in organ transplants, pregnancy, oral contraceptives, or known infections other than *Escherichia coli* (*E. coli*)

### 4.0 Laboratory Evidence

#### 4.1 Laboratory Confirmation

Any of the following will constitute a confirmed case of Verotoxigenic *E. coli* infection:

- Positive VTEC culture
- Detection of verotoxin

#### 4.2 Approved/Validated Tests

- Standard culture for VTEC with confirmation
- EIA for VTEC detection
- Serotyping of O and H antigens

#### 4.3 Indications and Limitations

- Sorbitol MacConkey agar is reliable for detecting most isolates of VTEC serotype O157:H7 and H- because these serovars are sorbitol-negative. It is not reliable for detecting other VTEC serotypes.
- Serotyping is indicated to ensure identification of *E. coli* O157:H7 as well as non-O157 serotypes that are associated with serious disease especially serogroups O26, O45, O103, O111, O121, and O145.

- Further strain characterization, including phage-typing and molecular typing, is indicated for public health purposes

## 5.0 Clinical Evidence

Clinically compatible signs and symptoms are characterized by diarrhea (often bloody) and abdominal cramps. Fever is often absent. Illness may be complicated by Hemolytic Uremic Syndrome (HUS), thrombocytopenia purpura (TTP) or pulmonary edema. Asymptomatic infections may also occur and the organism may cause extra-intestinal infections.

Clinical evidence of HUS includes: uraemia, thrombocytopenia, acute renal failure, and central nervous system signs and symptoms. A diarrheal prodrome usually occurs in 86 to 95% of patients and of those with diarrhea, 60 to 75% of the diarrhea is bloody.

## 6.0 ICD Code (s)

### 6.1 ICD-10 Code(s)

A04.3 Enterohaemorrhagic *E. coli* infection (includes VTEC)

### 6.2 ICD-9/ICD-9CM Code(s)

008.04 Enterohaemorrhagic *E. coli* infection (includes VTEC)

## 7.0 Comments

- O157 strains that do not include the H7 motility factor nonetheless meet case definition
- Non-O157 VTEC strains also meet case definition
- Although VTEC has been renamed to Shiga toxin producing *E. coli*, this is not reflected in Ontario's Reportable Diseases Regulation

## 8.0 References

- Acha PN, Szyfres B. Zoonoses and communicable diseases common to man and animals. 3<sup>rd</sup> ed. Volume I. Bacterioses and mycoses. Washington DC: Pan American Health Organization; 2003.
- Heymann D, editor. Control of communicable diseases manual. 18th ed. Washington: American Public Health Association; 2004.
- Ministry of Health and Long-Term Care, Public Health Division. iPHIS manual. Toronto, ON: Queen's Printer for Ontario; 2005.
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# Appendix B: Provincial Case Definitions for Reportable Diseases

Disease: West Nile Virus Illness

## West Nile Virus Illness

### 1.0 Provincial Reporting

Confirmed and probable cases of disease

### 2.0 Type of Surveillance

Case-by-case

### 3.0 Case Classification

#### 3.1 Confirmed WN virus Neurological Syndrome (WNNS) Case

Clinical criteria AND AT LEAST ONE of the confirmed case diagnostic test criteria (See Section 4.1.1)

#### 3.2 Probable WNNS Case

Clinical criteria AND AT LEAST ONE of the probable case diagnostic test criteria (See Section 4.1.2)

#### 3.3 Suspect WNNS Case

Clinical criteria IN THE ABSENCE OF OR PENDING diagnostic test criteria (See Section 4.1.1) AND IN THE ABSENCE of any other obvious cause.

#### 3.4 Confirmed WN virus Non-Neurological Syndrome (WN Non-NS) Case

Clinical criteria AND AT LEAST ONE of the confirmed case diagnostic test criteria (See Section 4.1.1)

#### 3.5 Probable WN Non-NS Case

Clinical criteria AND AT LEAST ONE of the probable case diagnostic test criteria (See Section 4.1.2)

#### 3.6 Suspect WN Non-NS Case

Clinical criteria IN THE ABSENCE OF OR PENDING diagnostic test criteria (See Section 4.1.1) AND IN THE ABSENCE of any other obvious cause.

#### 3.7 Confirmed WN virus Asymptomatic Infection (WNAI)<sup>1</sup> Case

Confirmed case diagnostic test criteria (See Section 4.1.1) IN THE ABSENCE of clinical criteria

#### 3.8 Probable WNAI Case

Probable case diagnostic test criteria (See Section 4.1.2) IN THE ABSENCE of clinical criteria

### 4.0 Laboratory Evidence

#### 4.1 Laboratory Confirmation

Any of the following will constitute a confirmed case of WN virus:

- Positive West Nile virus culture
- Positive for West Nile virus antigen in tissue
- Positive for West Nile virus-specific nucleic acid

- Positive for West Nile virus-specific antibody
- Diagnostic rise in West Nile virus antibody titre

#### 4.1.1 Confirmed Case Diagnostic Test Criteria

Health units should use the Confirmed Case Diagnostic Test Criteria to confirm initial cases (locally acquired) in their area each year; for subsequent cases, health units may use the Probable Case Diagnostic Test Criteria to classify cases in their area as “confirmed”, **for the purposes of health unit surveillance**. Throughout the remainder of the transmission season health units may wish to document Plaque Reduction Neutralization Test (PRNT) antibody titres to West Nile virus in a proportion of cases, to be determined by that health unit, in order to rule-out the possibility of concurrent activity by other flaviviruses.

##### AT LEAST ONE of the following:

- A significant (i.e., fourfold or greater) rise in WN virus neutralizing antibody titres (using a PRNT or other kind of neutralization assay) in paired acute and convalescent sera, or cerebrospinal fluid (CSF)  
**OR**
- Isolation of WN virus from, or demonstration of WN virus antigen or WN virus-specific genomic sequences in tissue, blood, CSF or other body fluids  
**OR**
- Demonstration of flavivirus antibodies in a single serum or CSF sample using a WN virus Immunoglobulin M (IgM) enzyme-linked immuno-sorbent assay (ELISA)<sup>2,3</sup>, confirmed by the detection of WN virus specific antibodies using a PRNT (acute or convalescent serum sample)  
**OR**
- A significant (i.e., fourfold or greater) rise in flavivirus haemagglutination inhibition (HI) titres in paired acute and convalescent sera or demonstration of a seroconversion using a WN virus Immunoglobulin G (IgG) ELISA<sup>2,3</sup> **AND** the detection of WN specific antibodies using a PRNT (acute or convalescent serum sample).

#### 4.1.2 Probable Case Diagnostic Test Criteria

##### AT LEAST ONE of the following:

- Detection of flavivirus antibodies in a single serum or CSF sample using a WN virus IgM ELISA<sup>2</sup> without confirmatory neutralization serology (e.g., PRNT)  
**OR**
- A significant (i.e., fourfold or greater) rise in flavivirus HI titres in paired acute and convalescent sera or demonstration of a seroconversion using a WN virus IgG ELISA<sup>2</sup>  
**OR**
- A titre of  $\geq 1:320$  in a single WN virus HI test, or an elevated titre in a WN virus IgG ELISA, with a confirmatory PRNT result  
[Note: A confirmatory PRNT or other kind of neutralization assay is not required in a health jurisdiction/authority where cases have already been confirmed in the current year]  
**OR**

- Demonstration of Japanese encephalitis (JE) serocomplex-specific genomic sequences in blood by nucleic acid amplification test (NAT) screening on donor blood, by Blood Operators in Canada.

#### 4.2 Approved/Validated Tests

- Standard culture for WN virus
- NAT for WN virus
- WN virus antigen detection in tissue
- WN virus IgM antibody detection
- WN virus HI, PRNT and/or IgG/IgM immunoassays

#### 4.3 Indications and Limitations

- Sensitivity of NAT testing is approximately 50% when used on plasma / serum samples collected less than 8 days after symptoms are detected.
- Individuals infected with WN virus display a low level of viremia (on average several thousand genome copies) for approximately one week after symptom onset. The use of NAT testing on acute serum / plasma samples can complement IgM testing when used together to assay "early" acute specimens

### 5.0 Clinical Evidence

#### 5.1 West Nile virus Neurological Syndrome (WNNS)

##### Clinical Criteria:

- History of exposure in an area where WN virus (WNV) activity is occurring<sup>4</sup>  
**OR**
- History of exposure to an alternative mode of transmission<sup>5</sup>  
**AND**
- Fever

**AND**

##### NEW ONSET OF AT LEAST ONE of the following:

- Encephalitis (acute signs of central or peripheral neurologic dysfunction),  
**OR**
- Viral meningitis (pleocytosis and signs of infection e.g., headache, nuchal rigidity)  
**OR**
- Acute flaccid paralysis (e.g., poliomyelitis-like syndrome or Guillain-Barré-like syndrome)<sup>6</sup>  
**OR**
- Movement disorders (e.g., tremor, myoclonus)  
**OR**
- Parkinsonism or Parkinsonia-like conditions (e.g., cogwheel rigidity, bradykinesia, postural instability)  
**OR**
- Other neurological syndromes<sup>7</sup>

#### 5.2 West Nile virus Non-Neurological Syndrome (WN Non-NS)

##### Clinical Criteria:

- History of exposure in an area where WN virus (WNV) activity is occurring<sup>4</sup>

**OR**

- History of exposure to an alternative mode of transmission<sup>5</sup>

**AND AT LEAST TWO** of the following<sup>7</sup> :

- fever
- myalgia<sup>8</sup>
- arthralgia
- headache
- fatigue
- lymphadenopathy
- maculopapular rash

**6.0 ICD Code(s)**

ICD 10 Code A923

**7.0 Comments**

<sup>1</sup> This category includes asymptomatic blood donors whose blood is screened using a Nucleic Acid Amplification Test (NAT), by Blood Operators (i.e. Canadian Blood Services or Hema-Quebec) and is subsequently brought to the attention of public health officials. The NAT that is currently used by Blood Operators in Canada is designed to detect all viruses in the Japanese encephalitis (JE) serocomplex. The JE serocomplex includes WN virus and nine other viruses, although from this group only WN virus and St Louis encephalitis virus are currently endemic to parts of North America. Blood Operators in Canada perform a supplementary WN virus-specific NAT and antibody (IgM and IgG) testing following any positive donor screen test result.

<sup>2</sup> Both CDC and commercial IgM / IgG ELISAs are now available for front line serological testing. Refer to appropriate assay procedures and kit inserts for the interpretation of test results.

<sup>3</sup> Early in infection the immune system generates antibodies that bind relatively weakly to viral antigen (low avidity). As the infection proceeds, an increasing percentage of newly generated IgG antibody displays higher binding affinity to virus antigen and thus avidity also rises (Note: avidity is usually measured based upon the ability of IgG to dissociate from antigen preparations after incubation with a solution of urea). As long as high avidity IgG is not yet detected in the serum it can be assumed that the individual was exposed to the viral agent during a recent exposure. With respect to WNV infection it has not been precisely determined when (i.e. post-exposure) high avidity antibodies reach levels in serum that can be accurately detected by serological assays (there may be significant variation depending on the individual). However, it has been shown that > 95% of sera collected from individuals exposed to WNV 6-8 months previously will have IgG antibodies that bind strongly to viral antigen and will give high avidity scores using both indirect fluorescent antibody (IFA) and ELISA testing formats. **Note: Avidity testing will not replace confirmatory neutralization testing, non-WNV flavivirus IgG antibody (e.g., dengue, St Louis encephalitis [SLE]) may bind to the antigen preparations used in avidity assays.**

Note: WNV IgM antibody may persist for more than a year and the demonstration of IgM antibodies in a patient's serum, particularly in residents of endemic areas, may not be diagnostic of an acute WN viral infection. Seroconversion (by HI, IgG ELISA or PRNT assays) demonstrates a current WNV infection. Therefore, the collection of acute and convalescent sera for serologic analysis is particularly important to rule out diagnostic

misinterpretation early in the WNV season (e.g. May, June) and to identify initial cases in a specific jurisdiction. However, it should be noted that seroconversions may not always be documented due to timing of acute sample collection (i.e. titres in acute sera may have already peaked). If static titres are observed in acute and convalescent paired sera, it is still possible the case may represent a recent infection. To help resolve this, the use of IgG avidity testing may be considered to distinguish between current and past infection. The presence of both IgM antibody and low avidity IgG in a patient's convalescent serum sample are consistent with current cases of viral associated illness. However test results that show the presence of IgM and high avidity IgG are indicative of exposures that have occurred in the previous season. Immunocompromised individuals may not be able to mount an immune response necessary for a serological diagnosis. West Nile virus diagnostic test criteria for these individuals should be discussed with a medical microbiologist.

<sup>4</sup> History of exposure when and where West Nile virus transmission is present, or could be present, or history of travel to an area with confirmed WNV activity in mosquitoes, birds, horses, other mammals or humans.

<sup>5</sup> Alternative modes of transmission, identified to date, include: laboratory-acquired; in utero; receipt of blood components; organ/tissue transplant; and, possibly via breast milk.

<sup>6</sup> A person with WNV-associated acute flaccid paralysis may present with or without fever or mental status changes. Altered mental status could range from confusion to coma with or without additional signs of brain dysfunction (e.g. paralysis, cranial nerve palsies, sensory deficits, abnormal reflexes, generalized convulsions and abnormal movements). Acute flaccid paralysis with respiratory failure is also a problem.

Note: A significant feature of West Nile virus neurological illness may be marked muscle weakness that is more frequently unilateral, but could be bilateral. WNV should be considered in the differential diagnosis of all suspected cases of acute flaccid paralysis with or without sensory deficit. WNV-associated weakness typically affects one or more limbs (sometimes affecting one limb only). Muscle weakness may be the sole presenting feature of WNV illness (in the absence of other neurologic features) or may develop in the setting of fever, altered reflexes, meningitis or encephalitis. Weakness typically develops early in the course of clinical infection. Patients should be carefully monitored for evolving weakness and in particular for acute neuromuscular respiratory failure, which is a severe manifestation associated with high morbidity and mortality. For the purpose of WNV Neurological Syndrome Classification, muscle weakness is characterized by severe (polio-like), non-transient and prolonged symptoms. Electromyography (EMG) and lumbar puncture should be performed to differentiate WNV paralysis from the acute demyelinating polyneuropathy (Guillain-Barré syndrome). Lymphocytic pleocytosis (an increase in WBC with a predominance of lymphocytes in the cerebrospinal fluid [CSF]) is commonly seen in acute flaccid paralysis due to WNV.

Other emerging clinical syndromes, identified in 2002 included, but were not limited to the following: myelopathy, rhabdomyolysis (acute destruction of skeletal muscle cells), peripheral neuropathy; polyradiculoneuropathy; optic neuritis; and acute demyelinating encephalomyelitis. Ophthalmologic conditions including chorioretinitis and vitritis were also reported. Facial weakness was also reported. Myocarditis, pancreatitis and fulminant hepatitis have not been identified in North America, but were reported in outbreaks of WNV in South Africa. "Aseptic" meningitis without encephalitis or flaccid paralysis occurring in August and September when WNV is circulating may be due to

non-polio enteroviruses circulating at the same time. This should be considered in the differential diagnosis.

<sup>7</sup> It is possible that other clinical signs and symptoms could be identified that have not been listed and may accompany probable case or confirmed case diagnostic test criteria. For example, gastrointestinal (GI) symptoms were seen in many WNV patients in Canada and the USA in 2003 and 2004.

<sup>8</sup> Muscle weakness may be a presenting feature of WNV illness. For the purpose of WNV Non-Neurological Syndrome classification, muscle weakness or myalgia (muscle aches and pains) is characterized by mild, transient, unlikely prolonged symptoms that are not caused by motor neuropathy.

## 8.0 References

- Ministry of Health and Long-Term Care, Public Health Division. iPHIS manual. Toronto, ON: Queen's Printer for Ontario; 2005.
- Nationally Notifiable Diseases Case Definitions with Canadian Public Health Laboratory Network (CPHLN) and Epidemiologic Group Draft Edits. March 2007. Based on case definitions as written in the: Health Canada. Case definitions for diseases under national surveillance. Can Commun Dis Rep. 2000; 26 Suppl 3:i-iv 1-122. Available from <http://www.phac-aspc.gc.ca/publicat/ccdr-rmtc/00pdf/cdr26s3e.pdf>.
- Ministry of Health and Long-Term Care. West Nile Virus Preparedness and Prevention Plan Ontario. Toronto, ON: Queen's Printer for Ontario; 2008. Available from [http://www.health.gov.on.ca/english/public/pub/ministry\\_reports/wnv\\_plan\\_2008/wnv\\_plan\\_full.pdf](http://www.health.gov.on.ca/english/public/pub/ministry_reports/wnv_plan_2008/wnv_plan_full.pdf). Retrieved February 3, 2009.

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# Appendix B: Provincial Case Definitions for Reportable Diseases

Disease: Yellow Fever

## Yellow Fever

### 1.0 Provincial Reporting

Confirmed and probable cases of disease

### 2.0 Type of Surveillance

Case-by-case

### 3.0 Case Classification

#### 3.1 Confirmed case

Laboratory confirmation of infection with clinically compatible signs and symptoms:

- Isolation of Yellow Fever virus  
**OR**
- Detection of Yellow Fever viral antigen or nucleic acid in body fluids or tissue  
**OR**
- A significant (i.e., fourfold or greater) rise in antibody titre to the yellow fever virus or a single elevated yellow fever IgM antibody titre in the absence of yellow fever vaccination within the previous 2 months and cross-reactive serological reactions to other flaviviruses have been excluded.

#### 3.2 Probable case

Clinically compatible signs and symptoms with a stable elevated antibody titre<sup>1</sup> to Yellow Fever virus with no other known cause. Cross-reactive serologic reactions to other flaviviruses must be excluded, and the patient must not have a history of yellow fever vaccination.

### 4.0 Laboratory Evidence

#### 4.1 Laboratory Confirmation

Any of the following will constitute a confirmed case of Yellow Fever:

- Positive Yellow Fever virus culture
- Positive nucleic acid amplification test (NAT) for Yellow Fever
- Positive for Yellow Fever antigen
- Positive for Yellow Fever antibody in the absence of yellow fever vaccination within the previous 2 months

#### 4.2 Approved/Validated Tests

- Standard culture for Yellow Fever virus
- Antibody detection using haemagglutination inhibition or enzyme immunoassay (EIA)
- NAT for Yellow Fever virus nucleic acid

#### 4.3 Indications and Limitations

- N/A

### 5.0 Clinical Evidence

Clinically compatible signs and symptoms are 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.

## 6.0 ICD Code(s)

ICD-10 Code A95

## 7.0 Comments

<sup>1</sup> A stable elevated antibody titre refers to the following:  $\geq 32$  by complement fixation,  $\geq 256$  by immunofluorescence assay,  $\geq 320$  by haemagglutination inhibition,  $\geq 160$  by neutralization, or a positive serologic result by immunoglobulin M-capture enzyme immunoassay.

## 8.0 References

- Ministry of Health and Long-Term Care, Public Health Division. iPHIS manual. Toronto, ON: Queen's Printer for Ontario; 2005.
- Nationally Notifiable Diseases Case Definitions with Canadian Public Health Laboratory Network (CPHLN) and Epidemiologic Group Draft Edits. March 2007. Based on case definitions as written in the: Health Canada. Case definitions for diseases under national surveillance. Can Commun Dis Rep. 2000; 26 Suppl 3:iv 1-122. Available from <http://www.phac-aspc.gc.ca/publicat/ccdr-rmtc/00pdf/cdr26s3e.pdf>.

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# Appendix B: Provincial Case Definitions for Reportable Diseases

Disease: Yersiniosis

## Yersiniosis

### 1.0 Provincial Reporting

Confirmed and probable cases of disease

### 2.0 Type of Surveillance

Case-by-case

### 3.0 Case Classification

#### 3.1 Confirmed Case

Laboratory confirmation of infection with or without clinically compatible signs and symptoms:

- Isolation of *Yersinia* spp. (except pestis) from an appropriate clinical specimen (e.g., stool, blood, urine)

**OR**

- A positive serological test for *Yersinia* spp.

#### 3.2 Probable Case

Clinically compatible signs and symptoms in a person with an epidemiologic link to a laboratory-confirmed case

### 4.0 Laboratory Evidence

#### 4.1 Laboratory Confirmation

The following will constitute a confirmed case of Yersiniosis:

- Positive culture for *Yersinia* spp.

#### 4.2 Approved/Validated Tests

- Standard culture for *Yersinia* spp.
- Biotyping and serotyping of O antigen

#### 4.3 Indications and Limitations

- Commercial nucleic acid amplification test (NAT) assays for *Yersinia* spp. are presently not available
- Further strain characterization is indicated for public health purposes
- Serology titres  $\geq 1:50$  to  $\leq 1:200$  may be due to non-specific cross reactions or past infection

### 5.0 Clinical Evidence

Clinically compatible signs and symptoms are characterized by diarrhea, abdominal pain, malaise, fever, nausea, and/or vomiting

### 6.0 ICD Code(s)

A04.6 Yersiniosis

### 7.0 Comments

N/A

## 8.0 References

- Acha PN, Szyfres B. Zoonoses and communicable diseases common to man and animals. 3<sup>rd</sup> ed. Volume I. Bacterioses and mycoses. Washington DC: Pan American Health Organization; 2003.
- Heymann D, editor. Control of communicable diseases manual. 18th ed. Washington: American Public Health Association; 2004.
- Ministry of Health and Long-Term Care, Public Health Division. iPHIS manual. Toronto, ON: Queen's Printer for Ontario; 2005.

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