Canada Communicable Disease Report

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Supplement

Relevé des maladies transmissibles au Canada

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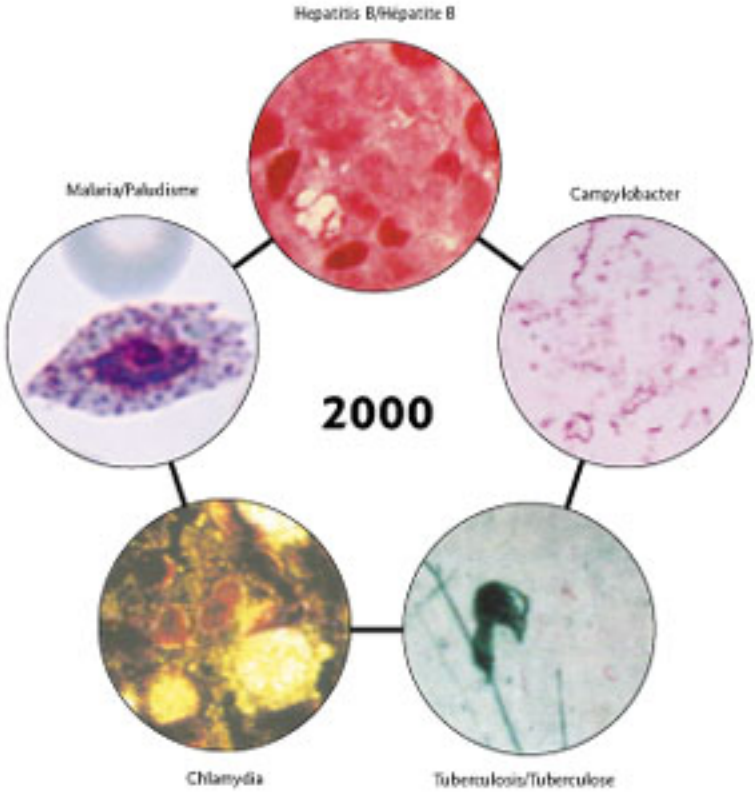
Volume 26S3

Supplément

Case Definitions for Diseases Under National Surveillance

Définitions de cas des maladies faisant l'objet d'une surveillance nationale



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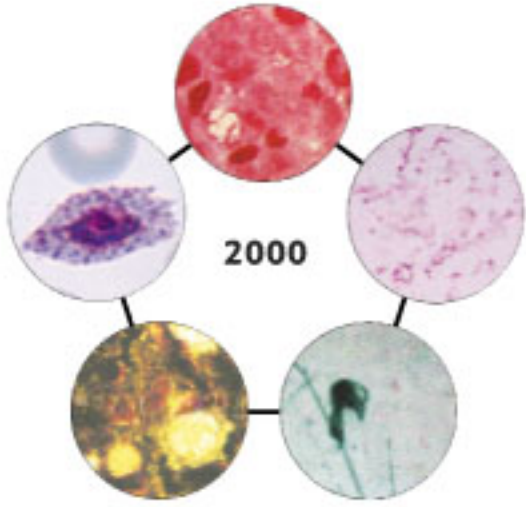
Canada

Case Definitions for Diseases Under National Surveillance



prepared by the

Advisory Committee on Epidemiology

and the

Division of Disease Surveillance
Bureau of Infectious Diseases
Laboratory Centre for Disease Control
Health Protection Branch
Health Canada

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PREFACE

This document is the product of close cooperation between the Laboratory Centre for Disease Control, of Health Canada, and the communicable disease control epidemiologists in each province and territory. This cooperation is achieved through the Advisory Committee on Epidemiology (ACE), which is a forum for these provincial and territorial officials to advise their federal counterparts on matters related to the study and control of diseases. ACE decided in 1997 to review communicable disease surveillance in Canada. The review process resulted in this document.

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Diseases Under National Surveillance

BASIC PRINCIPLES AND METHODS

Goals

1. To facilitate the control of the disease under surveillance by identifying the following:
   a. Prevailing incidence levels, impacts and trends to assist in the development of feasible objectives for prevention and control of the disease and the evaluation of control programs.
   b. Epidemiologic patterns and risk factors associated with the disease to assist in the development of intervention strategies.
   c. Outbreaks for the purpose of timely investigation and control.
2. To satisfy the needs of government (especially regulatory programs), health care professionals, voluntary agencies and the public for information on risk patterns and trends in the occurrence of communicable diseases.

Quality

If surveillance is considered necessary for any particular disease, then the surveillance must be carried out in such a way as to be of the highest epidemiologic quality. This implies the following:

a. Use of a uniform case definition across Canada and definition of a preventable case if applicable.
b. Collection of sufficient, appropriate epidemiologic data on each case to fulfil goal number one and identify preventable cases.
c. Timely transmission of these data from local to provincial and national agencies for analysis. Personal identifying information should be deleted before the data reach the federal level.
d. Use of the data to enhance control programs and assist in the development of realistic objectives for reducing the number of preventable cases.
e. Periodic effectiveness and economic evaluation of the surveillance system and progress towards control of the disease.

We realize that full implementation will require a gradual phase-in period and will proceed at different rates in different jurisdictions.

Reporting of Diseases Under National Surveillance

In Canada, the reporting or notifying of diseases is mandated by provincial legislation, and the list of notifiable diseases differs by province/territory. Prior to 1990, each jurisdiction had its own set of case definitions, and comparability across jurisdictions was difficult, if not impossible. In March 1991, the Laboratory Centre for Disease Control (LCDC), in conjunction with the provincial and territorial epidemiologists, published disease-specific case definitions for diseases under national surveillance. For the first time, these case definitions provided standardized criteria for the reporting of cases under national surveillance. This second edition of case definitions should supersede the 1991 edition.

In most instances, only confirmed cases are reported; a combination of clinical, laboratory and epidemiologic criteria is used to classify a confirmed case. For example, a confirmed case of a vaccine-preventable disease uses both a laboratory definition and an epidemiologic one (clinical illness in a person epidemiologically linked to a laboratory-confirmed case). Some case definitions include a brief clinical description; however, this information is intended for the purpose of classifying cases and should not be used for clinical diagnoses.

Probable cases may be described to assist local public health authorities in carrying out their public health mandate, such as outbreak investigation and contact tracing.

Physicians diagnosing a case of a specific (notifiable) disease report their clinical diagnosis with/without laboratory confirmation to local health authorities. These authorities are responsible for determining that the case meets the surveillance case definition before they officially report the case. Where there is uncertainty because data are missing or the results are inconclusive, it may be reported as a possible case, but the status must be made definite later; if not, the case must be deleted from the reporting system. The local health authority reporting the case collects all necessary epidemiologic data on it.

All pertinent laboratory detections (from appropriate sites) must be reported to local health authorities, which will then contact the physician to determine whether the isolate/specimen came from a person who meets the case definition. If so, the case is reported and the necessary epidemiologic data are gathered by the health authority.

The reporting of a case should be timely and need not be delayed until all epidemiologic data are available. Such data may be reported later and added to the original case report centrally. While local health authorities are encouraged to collect all information requested by the reporting system, when some items are not available the case should be reported with missing items listed as unknown. A case should never go unreported or deleted because of missing data. The only exception is when data to determine whether the case meets the case definition are missing. Such cases should not be reported.

The "Core Set" of Variables

The Advisory Committee on Epidemiology has agreed on "the necessary epidemiologic data" to be gathered for each reported case. This "core set of variables" includes province, disease, a unique identifier, age, gender, confirmed status (laboratory confirmed or epidemiologically linked), episode date, and geographic indicator.

Reporting of Case-by-Case Data

The Advisory Committee on Epidemiology has agreed to report case-by-case data, effective January 2000. Currently, some provinces/territories report aggregate data and some report case-by-case. Case-by-case reporting is "line-listed" information or, in other words, each case is reported on an individual basis with the core set of variables. All case reporting is non-nominal.

The Protocol for Interprovincial/Territorial Notification of Disease

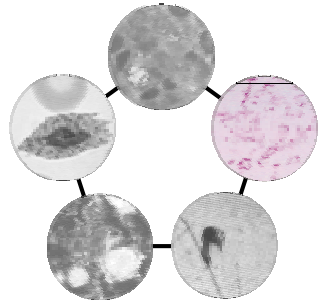
- The jurisdiction where the disease is diagnosed normally reports the case or has the responsibility to make sure that the disease is reported by some jurisdiction.
- The jurisdiction of diagnosis notifies the jurisdiction of residence if public health action (e.g. contact management, source of identifications, etc.) is necessary in those jurisdictions.
- Where cases resident in one jurisdiction are being diagnosed in another (such as in border towns) and thereby significantly affecting the incidence rate in the second jurisdiction, the two jurisdictions may make a disease-specific agreement that the diagnosing jurisdiction does not count the cases but does notify the residence jurisdiction, which will count them.
- Cases moving from one jurisdiction to another while still under surveillance for a notifiable disease are not re-counted in the new jurisdiction.

National Analysis and Reporting

LCDC will publish annual surveillance summaries. Provisional data for the most recent reporting period will continue to be published each quarter in *Canada Communicable Disease Report*. Disease incidence and rates of infection will be available on LCDC's website under Notifiable Diseases On-Line and can be accessed at the following address: http://www.hc-sc.gc.ca/hpb/lcdc/webmap/.

Enteric, Food and Waterborne Diseases

- **Botulism**
- **Campylobacteriosis**
- **Cholera**
- **Cryptosporidiosis**
- **Cyclosporiasis**
- **Giardiasis**
- **Hepatitis A**
- **Salmonellosis**
- **Shigellosis**
- **Typhoid**
- **Verotoxigenic *Escherichia coli***



National Surveillance
Case Definition for Botulism

Case Classification

Confirmed Case of Foodborne Botulism

laboratory confirmation of infection with/without symptoms:

- detection of *Clostridium botulinum* toxin in serum, stool, gastric aspirate or food
  OR
- isolation of *C. botulinum* from stool or gastric aspirate

Probable Case of Foodborne Botulism

clinical illness[1] in a person:

- who is epidemiologically linked to a confirmed case of foodborne botulism
  OR
- in whom there is epidemiologic evidence of exposure to a probable food source

---

Confirmed Case of Wound Botulism

laboratory confirmation of infection:

- detection of *C. botulinum* in serum
  AND
- presence of wound infected with *C. botulinum*
  OR
- presence of a freshly infected wound in the 2 weeks before symptoms and no evidence of consumption of food contaminated with *C. botulinum*

Confirmed Case of Infant Botulism

laboratory confirmation with symptoms compatible with botulism in a person less than one year of age[2]:

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

---

National Surveillance

confirmed case

Type of Surveillance

case-by-case

Date of Revision

October 1999

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[1] Clinical illness is characterized by diplopia, blurred vision and bulbar weakness. Symmetric paralysis may progress rapidly.

[2] Clinical illness in infants is characterized by constipation, poor feeding, and failure to thrive (may be followed by progressive weakness, impaired respiration, and death).

National Surveillance
Case Definition for Campylobacteriosis

Case Classification

Confirmed Case

laboratory confirmation of infection with/without symptoms:

- isolation of *Campylobacter* from an appropriate clinical specimen

---

Probable Case

clinical illness[1] in a person who is epidemiologically linked to a confirmed case

---

National surveillance

confirmed case

Type of Surveillance

case-by-case

Date of Revision

October 1999

[1] Clinical illness is characterized by an infection that may result in diarrheal illness of variable severity.

National Surveillance
Case Definition for Cholera

Case Classification

Confirmed Case

clinical illness[1] with laboratory confirmation of infection:

- isolation of cholera toxin producing *Vibrio cholerae* serovar 01 or 0139 from vomitus or stool

  OR
- serologic evidence of recent infection

Probable Case

clinical illness[1] in a person who is epidemiologically linked to a confirmed case

---

National Surveillance

confirmed case

Type of Surveillance

case-by-case

Date of Revision

October 1999

[1] Clinical illness is characterized by diarrhea and/or vomiting. The severity of illness may vary.

National Surveillance
Case Definition for Cryptosporidiosis

Case Classification

Confirmed case

laboratory confirmation of infection with/without symptoms:

- demonstration of *Cryptosporidium* oocysts in stool
  OR
- demonstration of *Cryptosporidium* in intestinal fluid or small bowel biopsy specimens
  OR
- demonstration of *Cryptosporidium* antigen in stool by a specific immunodiagnostic test (e.g. enzyme-linked immunosorbent assay [EIA])

Probable Case

clinical illness[1] in a person who is epidemiologically linked to a confirmed case

---

National Surveillance

confirmed case

Type of Surveillance

case-by-case

Date of Revision

October 1999

[1] Clinical illness is characterized by diarrhea, abdominal cramps, loss of appetite, low-grade fever, nausea, and vomiting. The illness may be prolonged and life-threatening in severely immunocompromised persons.

National Surveillance
Case Definition for Cyclosporiasis

Case Classification

Confirmed Case

laboratory confirmation of infection with/without symptoms:

- demonstration of *Cyclospora* sp in stool, duodenal/jejunal aspirate, or small bowel biopsy specimen
  OR
- demonstration of *Cyclospora* DNA by polymerase chain reaction (PCR) in stool, duodenal/jejunal aspirate, or small bowel biopsy specimen

---

Probable Case

clinical illness[1] in a person who is epidemiologically linked to a confirmed case

---

National Surveillance

confirmed case

Type of Surveillance

case-by-case

Date of Revision

October 1999

[1] Clinical illness is characterized by watery diarrhea, loss of appetite, abdominal bloating and cramping, increased flatus, nausea, fatigue, and low-grade fever.

National Surveillance
Case Definition for Giardiasis

Case Classification

Confirmed case

laboratory confirmation of infection with/without symptoms:

- demonstration of *Giardia lamblia* in stool, duodenal fluid or small bowel biopsy specimen
  OR
- demonstration of *G. lamblia* antigen in stool by a specific immunodiagnostic test (e.g. EIA)

Probable Case

clinical illness[1] in a person who is epidemiologically linked to a confirmed case

---

National Surveillance

confirmed case

Type of Surveillance

case-by-case

Date of Revision

October 1999

[1] Clinical illness is characterized by diarrhea, abdominal cramps, bloating, weight loss, or malabsorption.

National Surveillance
Case Definition for Hepatitis A

Case Classification

Confirmed Case

laboratory confirmation of infection with/without symptoms:

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

---

Probable Case

acute clinical illness[1] in a person who is epidemiologically linked to a confirmed case

---

National Surveillance

confirmed case

Type of Surveillance

case-by-case

Date of Revision

October 1999

[1] Acute clinical illness is characterized by discrete onset of symptoms and jaundice or elevated serum aminotransferase levels.

National Surveillance
Case Definition for Salmonellosis

Case Classification

Confirmed Case

laboratory confirmation of infection with/without symptoms:

- isolation of a *Salmonella* sp (excluding *Salmonella* Typhi) from an appropriate clinical specimen

---

Probable Case

clinical illness[1] in a person who is epidemiologically linked to a confirmed case

---

National Surveillance

confirmed case

Type of Surveillance

case-by-case

Date of Revision

October 1999

[1] Clinical illness is characterized by diarrhea, abdominal pain, nausea, and sometimes vomiting.

National Surveillance
Case Definition for Shigellosis

Case Classification

Confirmed Case

laboratory confirmation of infection with/without symptoms:

- isolation of *Shigella* from an appropriate clinical specimen

---

Probable Case

clinical illness[1] in a person who is epidemiologically linked to a confirmed case

---

National Surveillance

confirmed case

Type of Surveillance

case-by-case

Date of Revision

October 1999

[1] Clinical illness is characterized by diarrhea, fever, nausea, cramps, and tenesmus.

National Surveillance
Case Definition for Typhoid

Case Classification

Confirmed Case

laboratory confirmation of infection with/without symptoms:

- isolation of *Salmonella* Typhi from an appropriate clinical specimen

---

Probable Case

clinical illness[1] in a person who is epidemiologically linked to a confirmed case

---

National Surveillance

confirmed case

Type of Surveillance

case-by-case

Date of Revision

October 1999

NOTE: Paratyphoid fever caused by *Salmonella* Paratyphi A, B, C is reported under *Salmonella* sp.

[1] Clinical illness is characterized by insidious onset of sustained fever, headache, malaise, anorexia, relative bradycardia, constipation, or diarrhea.

National Surveillance

Case Definition for Verotoxigenic *Escherichia coli* Infection

Case Classification

Confirmed Case

laboratory confirmation of infection with/without symptoms:

- isolation of verotoxin producing *Escherichia coli* or other toxigenic strains from an appropriate clinical specimen

---

Probable Case

clinical illness[1] in a person who is epidemiologically linked to a confirmed case

---

National Surveillance

confirmed case

Type of Surveillance

case-by-case

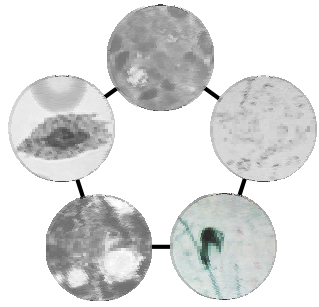
Date of Revision

October 1999

[1] Clinical illness is characterized by diarrhea (often bloody) and abdominal cramps. Illness may be complicated by hemolytic uremic syndrome (HUS), thrombocytopenia purpura (TTP), or pulmonary edema with no other identifiable cause.

Diseases Transmitted By Direct Contact and Respiratory Routes

- **Classic Creutzfeld-Jakob Disease**
- **New Variant Creutzfeld-Jakob Disease**
- **Hantavirus Pulmonary Syndrome**
- **Laboratory-Confirmed Influenza**
- **Legionellosis**
- **Leprosy**
- **Invasive Meningococcal Disease**
- **Invasive Pneumococcal Disease**
- **Invasive Group A Streptococcal Disease**
- **Group B Streptococcal Disease of the Newborn**
- **Tuberculosis**



National Surveillance
Case Definition for Classic Creutzfeld-Jakob Disease

Case Classification

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1. Sporadic Case

Confirmed CJD

- spongiform encephalopathy in cerebral and/or cerebellar cortex and/or subcortical grey matter
  AND/OR
- encephalopathy with prion protein (PrP) immunoreactivity (plaque and/or diffuse synaptic and/or patchy/perivacuolar types)
  AND/OR
- scrapie associated fibrils (SAF)

Probable CJD

- rapidly progressive dementia
  AND
- typical EEG
  AND
- at least two out of the following four clinical features: myoclonus; visual or cerebellar disturbances (ataxia); pyramidal/extrapyramidal dysfunction; akinetic mutism

OR

- rapidly progressive dementia
  AND
- two out of four clinical features listed above
  AND
- duration of illness < 2 years
  AND
- 14-3-3 positivity (in cerebrospinal fluid)

Possible CJD

- rapidly progressive dementia
  AND
- two out of four clinical features listed above
  AND
- duration of illness < 2 years

---

2. Iatrogenic CJD

- progressive cerebellar syndrome in a pituitary hormone recipient
- sporadic CJD with a recognized exposure risk (e.g. dura mater transplant)

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3. Familial CJD

- confirmed or probable sporadic CJD *plus* confirmed or probable CJD in a first degree relative
  AND/OR
- neuropsychiatric disorder *plus* disease-specific PrP mutation

4. Gerstmann-Straussler-Scheinker (GSS)

- GSS in a family with dominantly inherited progressive ataxia
  AND/OR
- dementia and one of a variety of PrP gene mutations:
  - encephalo(myelo)pathy with multicentric PrP plaques

5. Familial Fatal Insomnia (FFI)

- FFI in a member of a family with PrP178 mutation:
  - thalamic degeneration, variable spongiform change in cerebrum

6. Kuru

- Kuru in the Fore population of Papua New Guinea:
  - 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

National Surveillance

confirmed, probable, possible

Type of Surveillance

Creutzfeld-Jakob Surveillance System (CJD-SS)

National Surveillance

Case Definition for New Variant Creutzfeld-Jakob Disease

Case Classification

Confirmed Case

progressive neuropsychiatric disorder with neuropathologic confirmation of infection:

- abundant kuru-type amyloid plaques surrounded by vacuoles (clearly visible in hematoxylin and eosin [H & E] and periodic acid-Schiff [PAS] stains)
  AND
- spongiform change most prominent in the basal ganglia
  AND
- marked thalamic astrocytosis
  AND
- abundant PrP deposits on immunocytochemistry, including prominent "pericellular" deposition in cerebral and cerebellar cortex (especially in the molecular layer)

Probable Case

- progressive neuropsychiatric disorder
  AND
- duration of illness > 6 months
  AND
- routine investigations do not suggest an alternative diagnosis
  AND
- no history of potential iatrogenic exposure
  AND
- four out of five clinical features[1]
  AND
- does not have the "typical" EEG appearance of classical CJD (or no EEG performed)
  AND
- posterior thalamic high signal on magnetic resonance imaging (MRI) scan (after review by CJD surveillance staff)

Possible Case

- progressive neuropsychiatric disorder
  AND
- duration of illness > 6 months
  AND
- routine investigations do not suggest an alternative diagnosis
  AND
- no history of potential iatrogenic exposure
  AND
- four out of five clinical features[1]
  AND
- does not have the "typical" EEG appearance of classical CJD (or no EEG performed)

National Surveillance

confirmed, probable, possible

Type of Surveillance

Creutzfeld-Jakob Surveillance System (CJD-SS)
Canadian Pediatric Surveillance System (CPSP)

Date of Revision

October 1999

NOTE: Genetic analysis is required in every suspected case to exclude familial CJD; patients should have no history of exposure to human pituitary-derived products or any other source of iatrogenic CJD.

[1] Clinical features include:

- early psychiatric symptoms
- persistent painful sensory symptoms
- ataxia
- myoclonus, chorea or dystonia
- dementia

National Surveillance
Case Definition for Hantavirus Pulmonary Syndrome (HPS)

Case Classification

Confirmed Case

clinical illness[1] with laboratory confirmation of infection:

- detection of hantavirus-specific IgM antibodies or a 4-fold or greater increase in hantavirus-specific IgG antibody titres
  OR
- detection of hantavirus-specific ribonucleic acid sequence by polymerase chain reaction in an appropriate clinical specimen
  OR
- detection of hantavirus antigen by immunohistochemistry

National Surveillance

confirmed case

Type of Surveillance

case-by-case

Date of Revision

October 1999

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[1] Clinical illness case definition:

- a febrile illness (Temperature > 38.3° C [101° F] oral) requiring supplemental oxygen
  PLUS
- bilateral diffuse infiltrates (may resemble acute respiratory distress syndrome [ARDS])
  PLUS
- 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

National Surveillance
Case Definition for Laboratory-Confirmed Influenza

Case Classification

Confirmed Case

clinical illness[1] with laboratory confirmation of infection:

- isolation of influenza virus from an appropriate clinical specimen
  OR
- demonstration of influenza virus antigen in an appropriate clinical specimen

---

National Surveillance

confirmed case

Type of Surveillance

FluWatch

Date of Revision

October 1999

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[1] Influenza-like illness (ILI) is characterized as follows:

A. Adult (general population) ILI: Acute onset of respiratory illness with fever and cough and one or more of sore throat, arthralgia, myalgia or prostration — which could be due to influenza virus.

B. Long-term care (elderly) ILI: Acute onset of respiratory illness with cough and one or more of sore throat, arthralgia, myalgia, prostration. Affected persons often experience fever or feverishness with chills, but these symptoms may not be prominent in the elderly.

C. Pediatric ILI: Acute onset of respiratory illness with cough and fever and one or more of sore throat, arthralgia, myalgia, or prostration. In pediatric age groups, ILI may be accompanied by nausea, vomiting or diarrhea. In the very young, fever may not be prominent.

National Surveillance
Case Definition for Legionellosis

Case Classification

Confirmed Case

clinical illness[1] with laboratory confirmation of infection:

- isolation of *Legionella* organisms or detection of the antigen from respiratory secretions, lung tissue, pleural fluid, or other normally sterile fluids
  OR
- a 4-fold or greater rise in antibody titre to ≥ 1:128 against *Legionella pneumophila*
  OR
- detection of *L. pneumophila* serogroup 1 in respiratory secretions, lung tissue, or pleural fluid by direct fluorescent antibody testing
  OR
- demonstration of *L. pneumophila* serogroup 1 antigen in urine by radioimmunoassay or EIA

National Surveillance

confirmed case

Type of Surveillance

other

Date of Revision

October 1999

[1] Legionellosis comprises two distinct illnesses: legionnaires' disease, characterized by fever, myalgia, cough, and pneumonia; and Pontiac fever, a milder illness without pneumonia.

National Surveillance
Case Definition for Leprosy (Hansen's Disease)

Case Classification

Confirmed Case

clinical illness[1] with laboratory confirmation of infection:

- demonstration of acid-fast bacilli, antigen or genome in skin, mucus membrane or peripheral/dermal nerve biopsy

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Probable Case

clinical illness[1] with histopathologic evidence (chronic granulomatous infiltrates within or impinging upon peripheral or dermal nerves) in a biopsy specimen

---

National Surveillance

confirmed case

Type of Surveillance

case-by-case

Date of Revision

October 1999

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[1] Clinical illness is characterized by the involvement primarily of skin as well as peripheral nerves and the mucosa of the upper airway. Clinical forms of Hansen's disease represent a spectrum reflecting the cellular immune response to *Mycobacterium leprae*. The following characteristics are typical of the major forms of the disease:

Tuberculoid: one or a few well-demarcated, hypopigmented, and anesthetic skin lesions, frequently with active, spreading edges and a clearing centre; peripheral nerve swelling or thickening also may occur.

Lepromatous: a number of erythematous papules and nodules or an infiltration of the face, hands, and feet with lesions in a bilateral and symmetrical distribution that progress to thickening of the skin.

Borderline (dimorphous): skin lesions characteristic of both the tuberculoid and lepromatous forms.

Indeterminate: early lesions, usually hypopigmented macules, without developed tuberculoid or lepromatous features.

National Surveillance
Case Definition for Invasive Meningococcal Disease

Case Classification

Confirmed Case

invasive disease[1] with laboratory confirmation of infection:

- isolation of *Neisseria meningitidis* from a normally sterile site (blood, cerebrospinal fluid, joint, pleural or pericardial fluid)
  OR
- demonstration of *N. meningitidis* antigen in cerebrospinal fluid

---

Probable Case

invasive disease[1] with purpura fulminans or petechiae in the absence of a positive blood culture and no other apparent cause

---

National Surveillance

confirmed case

Type of Surveillance

case-by-case

Date of Revision

October 1999

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[1] Invasive meningococcal disease usually manifests itself as meningitis and/or septicemia, although other manifestations may be observed. Invasive disease may progress rapidly to purpura fulminans, shock, and death.

National Surveillance
Case Definition for Invasive Pneumococcal Disease

Case Classification

Confirmed Case

invasive disease[1] with laboratory confirmation of infection:

- isolation of *Streptococcus pneumoniae* from a normally sterile site (not including the middle ear)
  OR
- demonstration of *S. pneumoniae* antigen in cerebrospinal fluid

---

National Surveillance

confirmed case (pneumonia without bacteremia is not reportable)

Type of Surveillance

case-by-case

Date of Revision

October 1999

[1] Invasive disease manifests itself mainly as pneumonia with bacteremia, bacteremia without a known site of infection, and meningitis.

National Surveillance

Case Definition for Invasive Group A Streptococcal Disease

Case Classification

Confirmed Case

laboratory confirmation of infection with/without clinical evidence of invasive disease[1]:

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

Probable Case

invasive disease[1] in the absence of another identified etiology and with isolation of group A *Streptococcus* from a nonsterile site

---

National Surveillance

confirmed case

Type of Surveillance

case-by-case

Date of Revision

October 1999

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[1] Clinical evidence of invasive disease may be manifest as several conditions. These include:

a) streptococcal toxic shock syndrome, which is characterized by hypotension (systolic blood pressure 90 mm Hg in an adult and < 5 percentile for age for children) and at least two of the following signs:

(i) renal impairment (creatinine level 177 mol/L for adults)

(ii) coagulopathy (platelet count 100,000/mm^3 or disseminated intravascular coagulation)

(iii) liver function abnormality (SGOT, SGPT, or total bilirubin 2x upper limit of normal)

(iv) adult respiratory distress syndrome

(v) generalized erythematous macular rash that may desquamate

b) soft-tissue necrosis, including necrotizing fasciitis, myositis, or gangrene

c) meningitis

d) a combination of the above.

National Surveillance

Case Definition for Group B Streptococcal Disease of the Newborn

Case Classification

Confirmed Case

clinical illness[1] with laboratory confirmation of infection:

- isolation of group B *Streptococcus* from a normally sterile site in infants less than 1 month of age

---

National Surveillance

confirmed case

Type of Surveillance

case-by-case

Date of Revision

October 1999

[1] There are two forms of clinical illness: early onset disease (1-7 days), characterized by sepsis, respiratory distress, apnea, shock, pneumonia, and meningitis; and late onset disease (7 days to 1 month), characterized by sepsis and meningitis.

National Surveillance
Case Definition for Tuberculosis

Case Classification

Confirmed Case of Tuberculosis

laboratory confirmation of infection:

- demonstration on culture (from a specimen taken from the patient) of *Mycobacterium tuberculosis* complex (i.e. *M. tuberculosis, M. bovis* [excluding BCG strain], or *M. africanum*)

Clinical Case of Tuberculosis

clinical findings compatible with active tuberculosis[1] in the absence of bacteriologic proof

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New Case of Tuberculosis

no documented evidence or history of previously active tuberculosis

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Relapsed (reactivated) Case of Tuberculosis

documented evidence or history of previously active tuberculosis that became inactive

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Inactive Tuberculosis

- cultures for *M. tuberculosis* negative for at least 6 months
  OR
- in the absence of cultures or chest (or other) x-rays, stable for a minimum of 6 months

---

National Surveillance

confirmed case

Type of Surveillance

case-by-case

Date of Revision

October 1999

NOTES: Molecular biologic techniques are research tools and are not included in the definition.

Cases of tuberculosis diagnosed in Canada include all cases: among Canadian born, immigrants, refugees, refugee claimants, students, visitors, migrant workers, and illegal aliens.
Visitors = those non-Canadians travelling with or without a visa, stopping in Canada en route.

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[1] Examples of clinical findings compatible with active tuberculosis are chest radiographic changes compatible with active tuberculosis, including idiopathic pleurisy with effusion, active extrapulmonary tuberculosis (meningeal, bone, kidney, peripheral lymph nodes, etc.), and pathologic or post-mortem evidence of active tuberculosis.

National Surveillance

Case Definition for Acquired Immunodeficiency Syndrome (AIDS)

Case Classification

Confirmed AIDS Case

- one or more of the specified indicator diseases[1] definitively diagnosed
  AND
- a positive test for HIV infection

National Surveillance

confirmed case

Type of Surveillance

case-by-case

Date of Revision

October 1999

NOTE: Additional information on diagnostic criteria (sufficient for surveillance purposes) for the indicator diseases are provided on the back of the HIV/AIDS Case Report Form.

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[1] **Indicator Diseases for Adults and Adolescents ≥ 15 years of Age**
Bacterial pneumonia (recurrent)*
Candidiasis (bronchi, trachea or lungs)
Candidiasis (esophageal)†
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)*,†
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†
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*,†
M. tuberculosis (disseminated or extrapulmonary)*
M. tuberculosis (pulmonary)*
Pneumocystis carinii pneumonia†
Progressive multifocal leukoencephalopathy
Salmonella septicemia (recurrent)*
Toxoplasmosis of brain†
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

National Surveillance
Case Definition for Chlamydial Infection

Case Classification

Genital Infections
Confirmed Case

laboratory confirmation of infection:

- detection of *Chlamydia trachomatis* by appropriate laboratory techniques in genitourinary specimens

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Extra-genital Infections
Confirmed Case

laboratory confirmation of infection:

- detection of *C. trachomatis* by appropriate laboratory techniques in specimens from rectum, conjunctiva, and other extra-genital sites

---

Perinatally Acquired Infections
Confirmed Case

laboratory confirmation of infection:

- detection of *C. trachomatis* by appropriate laboratory techniques in nasopharyngeal or other respiratory tract specimens from an infant who developed pneumonia in the first 6 months of life

  OR
- detection of *C. trachomatis* by appropriate laboratory techniques in conjunctival specimens from an infant who developed conjunctivitis in the first month of life

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National Surveillance

confirmed case

Type of Surveillance

case-by-case

Date of Revision

October 1999

NOTE: Each category is mutually exclusive.

National Surveillance
Case Definition for Gonorrhea

Case Classification

Genital Infections
Confirmed Case

laboratory confirmation of infection:

- detection of *Neisseria gonorrhoeae* by appropriate laboratory techniques in genitourinary specimens

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Extra-genital Infections
Confirmed Case

laboratory confirmation of infection:

- detection of *N. gonorrhoeae* by appropriate laboratory techniques in specimens from pharynx, rectum, joint, conjunctiva, blood, and other extra-genital sites

---

Perinatally Acquired Infections
Confirmed Case

laboratory confirmation of infection:

- detection of *N. gonorrhoeae* by appropriate laboratory techniques in a neonate (up to 4 weeks of age) leading to the diagnosis of gonococcal conjunctivitis, scalp abscess, vaginitis, bacteremia, arthritis, meningitis or endocarditis.

National Surveillance

confirmed case

Type of Surveillance

case-by-case

Date of Revision

October 1999

NOTE: Each category is mutually exclusive.

National Surveillance
Case Definition for Hepatitis C

Case Classification

Confirmed Case

laboratory confirmation of infection with/without symptoms:

- if 1 year of age[1]:
  - hepatitis C virus RNA PCR[2] positive regardless of the result of testing for antibody to hepatitis C virus (anti-HCV)[3]
- if 1 year of age:
  - anti-HCV positive[4]

  OR
  - hepatitis C virus RNA PCR positive[5], if anti-HCV negative

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National Surveillance

confirmed case

Type of Surveillance

case-by-case

Date of Revision

October 1999

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1 Cord blood should not be used because of maternal blood contamination.

2 Optimum time after birth for HCV RNA PCR testing is undefined. Testing at 4-6 weeks and/or at 6 months to 1 year is recommended.

3 HCV antibody testing should not be performed in infants 1 year of age because of detectable levels of maternal antibody; however, if antibody testing is performed and found to be reactive at 1 year of age, PCR testing should be performed to rule out maternal antibody and to confirm viremia.

4 Positive tests should be confirmed by dual EIA testing or by immunoblot/PCR based testing.

5 PCR testing should be performed only in anti-HCV negative individuals when clinically indicated.

National Surveillance

Case Definition for Human Immunodeficiency Virus (HIV) Infection

Case Classification

Confirmed Case

laboratory confirmation of infection:

- positive result on a screening test for HIV antibody (e.g., repeatedly reactive enzyme immunoassay) followed by a positive test result on a confirmatory test for HIV antibody (e.g., Western blot or immunoflorescence antibody test)

National Surveillance

confirmed case

Type of Surveillance

case-by-case

National Surveillance
Case Definition for Syphilis

Case Classification

Congenital Syphilis
Confirmed Case

laboratory confirmation of infection:

- identification of *Treponema pallidum* by dark-field microscopy, fluorescent antibody or equivalent examination of material from nasal discharges, skin lesions, placenta, umbilical cord or autopsy material of a neonate (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, whose mother is without documented evidence of adequate treatment

---

Primary Syphilis
Confirmed Case

laboratory confirmation of infection:

- identification of *T. pallidum* by dark-field microscopy, fluorescent antibody, 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 at least a 4-fold (e.g. 1:8 to 1:32) increase in the titre over the last known non-treponemal test in individuals with a past history of syphilis treatment

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Secondary Syphilis
Confirmed Case

laboratory evidence of infection:

- identification of *T. pallidum* by dark-field microscopy, fluorescent antibody or equivalent examination of mucocutaneous lesions, condylomata lata and reactive serology (non-treponemal and treponemal)
  OR
- presence of typical 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 at least a 4-fold (e.g. 1:8 to 1:32) increase in titre over the last known non-treponemal test.

NOTE: The possibility of a prozone reaction should be considered in individuals who are suspected of having secondary syphilis but whose non-treponemal test is non-reactive.

Early Latent Syphilis
Confirmed Case

laboratory confirmation of infection:

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

---

Late Latent Syphilis
Confirmed Case

laboratory confirmation of infection:

- 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 for syphilis

---

Neurosyphilis
Confirmed Case

laboratory confirmation of infection:

- reactive treponemal serology (regardless of non-treponemal serology reactivity) and one of the following:
  - reactive CSF-VDRL in non-bloody cerebrospinal fluid (CSF)
  - clinical evidence of neurosyphilis and CSF pleocytosis (particularly lymphocytes) in the absence of other known causes
  - clinical evidence of neurosyphilis and elevated CSF protein in the absence of other known causes

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Tertiary Syphilis Other Than Neurosyphilis
Confirmed Case

laboratory confirmation of infection:

- reactive treponemal serology (regardless of non-treponemal test reactivity) together with characteristic 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 diagnostic.)

  AND

- no clinical or laboratory evidence of neurosyphilis.

National Surveillance

confirmed case

Type of Surveillance

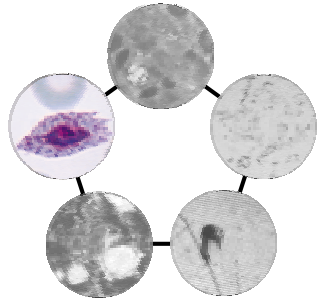
case-by-case

Date of Revision

October 1999

Vectorborne and Other Zoonotic Diseases

- **Brucellosis**
- **Lyme Disease**
- **Malaria**
- **Plague**
- **Rabies**
- **Yellow Fever**



National Surveillance
Case Definition for Brucellosis

Case Classification

Confirmed Case

clinical illness[1] with laboratory confirmation of infection:

- isolation of *Brucella* sp from an appropriate clinical specimen
  OR
- 4-fold or greater rise in *Brucella* agglutination titre between acute- and convalescent-phase serum specimens obtained 2 or more weeks apart and studied at the same laboratory
  OR
- demonstration by immunofluorescence of *Brucella* sp in an appropriate clinical specimen

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Probable Case

- clinical illness[1] in a person who is epidemiologically linked to a confirmed case
  OR
- clinical illness[1] with supportive serology (*Brucella* agglutination titre of 160 or higher in one or more serum specimens obtained after onset of symptoms)

National Surveillance

confirmed case

Type of Surveillance

case-by-case

Date of Revision

October 1999

[1] Clinical illness is characterized by acute or insidious onset of fever, night sweats, undue fatigue, anorexia, weight loss, headache, and arthralgia.

National Surveillance
Case Definition for Lyme Disease

Case Classification

Confirmed Case

erythema migrans (EM)[1] or at least one late manifestation[2] with laboratory confirmation of infection:

- isolation of *Borrelia burgdorferi* from an appropriate clinical specimen
  OR
- detection of diagnostic immunoglobulin M or immunoglobulin G antibodies to *B. burgdorferi* in serum or cerebrospinal fluid. A two-test approach is recommended using a sensitive enzyme immunoassay or immunofluorescence antibody test followed by Western blot.

National Surveillance

confirmed case

Type of Surveillance

case-by-case

Date of Revision

October 1999

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

[2] Late manifestations include any of the following when an alternative explanation is not found:

Musculoskeletal system: Recurrent, brief attacks (weeks or months) of objective joint swelling in one or a few joints, sometimes followed by chronic arthritis in one or a few joints. Manifestations not considered diagnostic criteria include chronic progressive arthritis not preceded by brief attacks, and chronic symmetrical polyarthritis. Additionally, arthralgia, myalgia, or fibromyalgia syndromes alone are not criteria for musculoskeletal involvement.

Nervous system: Any of the following, alone or in combination: lymphocytic meningitis; cranial neuritis, particularly facial palsy (may be bilateral); radiculoneuropathy; or (rarely) encephalomyelitis. Encephalomyelitis must be confirmed by demonstration of antibody production against *B. burgdorferi* in the CSF, evidenced by a higher titre of antibody in CSF than in serum. Headache, fatigue, paresthesia, or mildly stiff neck alone are not criteria for neurologic involvement.

Cardiovascular system: Acute onset of high-grade (2^{nd}-degree or 3^{rd}-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.

National Surveillance
Case Definition for Malaria

Case Classification

Confirmed Case

laboratory confirmation of infection:

- demonstration of the parasite in a blood smear/film (thick and thin)
  OR
- some other accepted laboratory test, such as antigen or genome (PCR) detection

Malaria cases are subdivided into the following categories:

a. ***Induced:*** a confirmed case of malaria acquired through a blood transfusion from a donor in whom the parasite has been confirmed.
b. ***Autochthonous:*** a confirmed case of malaria acquired by mosquito transmission within Canada.
c. ***Imported*****:** a confirmed case of malaria acquired outside Canada.
d. ***Congenital, confirmed*****:** a confirmed case of malaria in an infant < 3 months old, who has not left Canada since birth, with confirmation of the presence of the parasite in the mother.
e. ***Congenital, probable*****:** a confirmed case of malaria in an infant < 3 months old who has not left Canada since birth, but without demonstration of the presence of the parasite in the mother.

National Surveillance

confirmed case

Type of Surveillance

case-by-case

Date of Revision

October 1999

NOTES:

1. 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.
2. A subsequent attack in the same person caused by a different *Plasmodium* species is counted as an additional case.
3. A repeat attack by the same species is not counted as a new case unless the person has travelled to a malaria-endemic area since the previous attack.

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[1] Clinical illness: 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.

National Surveillance
Case Definition for Plague

Case Classification

Confirmed Case

clinical illness[1] and laboratory confirmation of infection:

- isolation of *Yersinia pestis* from body fluids
  OR
- a 4-fold or greater rise in serum antibody titre to *Y. pestis* fraction 1 (F1) antigen
  OR
- demonstration of antigen or genome by other accepted laboratory tests

---

Clinical Case

clinical illness[1] with one of the following laboratory confirmations of infection:

- demonstration of elevated serum antibody titre(s) to *Y. pestis* F1 antigen (without documented 4-fold or greater change) in a patient with no history of plague immunization
  OR
- demonstration of F1 antigen in a clinical specimen by fluorescent assay

---

National Surveillance

confirmed case

Type of Surveillance

case-by-case

Date of Revision

October 1999

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[1] Clinical illness: the disease is characterized by fever, chills, headache, malaise, prostration, and leukocytosis that is manifest in one or more of the following principal clinical forms:

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

National Surveillance
Case Definition for Human Rabies

Case Classification

Confirmed Case

clinical illness[1] with laboratory confirmation of infection:

- detection by direct fluorescent antibody of viral antigen in an appropriate clinical specimen (preferably the brain or the nerves surrounding hair follicles in the nape of the neck)
  OR
- isolation (in cell culture or in a laboratory animal) of rabies virus from saliva, cerebrospinal fluid, or central nervous system tissue
  OR
- identification of a rabies-neutralizing antibody titre greater than or equal to 5 (complete neutralization) in the serum or cerebrospinal fluid of an unvaccinated person

---

National Surveillance

confirmed case

Type of Surveillance

case-by-case

Date of Revision

October 1999

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

National Surveillance
Case Definition for Yellow Fever

Case Classification

Confirmed Case

clinical illness[1] with laboratory confirmation of infection:

- isolation of yellow fever virus
  OR
- detection of yellow fever viral antigen or genome in body fluids or tissue
  OR
- a 4-fold change in serum antibody titre to the yellow fever virus or a single elevated specific yellow fever IgM antibody titre in the absence of yellow fever vaccination within the previous 2 months

---

Probable Case

clinical illness[1] with a stable elevated antibody titre to yellow fever virus with no other known cause

---

National Surveillance

confirmed case

Type of Surveillance

case-by-case

Date of Revision

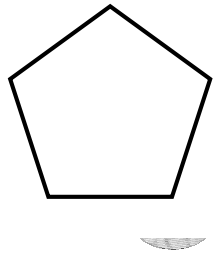
October 1999

NOTE: For probable cases, cross-reactive serologic reactions to other flaviviruses must be excluded, and the patient must not have a history of yellow fever vaccination.

[1] Clinical illness: a mosquito-borne viral illness characterized by acute onset and constitutional symptoms followed by a brief remission and a recurrence of fever, hepatitis, albuminuria, and in some instances, renal failure, shock, and generalized hemorrhages

Diseases Preventable by Routine Vaccination

- **Chickenpox**
- **Diphtheria**
- **Hepatitis B**
- **Invasive Hib Disease**
- **Measles**
- **Mumps**
- **Acute Flaccid Paralysis**
- **Pertussis**
- **Poliomyelitis**
- **Rubella**
- **Congenital Rubella Syndrome**
- **Tetanus**



National Surveillance
Case Definition for Chickenpox

Case Classification

Confirmed Case

laboratory confirmation of infection:

- isolation of varicella virus from an appropriate clinical specimen

  OR
- significant rise in serum varicella immunoglobulin G antibody level by any standard serologic assay

OR

clinical illness[1] in a person who is epidemiologically linked to a confirmed case

---

Probable Case

none

National Surveillance

confirmed case

Type of Surveillance

case-by-case

Date of Revision

October 1999

[1] Clinical illness is characterized by a rash with rapid evolution of macules to papules, vesicles, and crusts; all stages are simultaneously present; lesions are superficial and may appear in crops.

National Surveillance
Case Definition for Diphtheria

Case Classification

Confirmed Case

laboratory confirmation of infection:

- isolation of *Corynebacterium diphtheriae* from an appropriate clinical specimen

OR

- histopathologic diagnosis of diphtheria

OR

epidemiologic link (contact within 2 weeks prior to onset of symptoms) to a laboratory-confirmed case

PLUS at least one of the following:

- upper respiratory tract infection (nasopharyngitis, laryngitis, or tonsillitis) with/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
- systemic manifestations compatible with diphtheria in a person with an upper respiratory tract infection or infection at another site

---

Probable Case

upper respiratory tract infection (nasopharyngitis, laryngitis, or tonsillitis) with/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

Suspected Case

upper respiratory tract infection (nasopharyngitis, laryngitis, or tonsillitis) with a nasal, tonsillar, pharyngeal and/or laryngeal membrane (NB the membrane must be present)

National Surveillance

confirmed case

Type of Surveillance

case-by-case

Date of Revision

October 1999

National Surveillance
Case Definition for Hepatitis B (Acute Case)

Case Classification

Confirmed Case

laboratory confirmation of infection:

- hepatitis B surface antigen (HBsAg) positive and immunoglobulin M (IgM) antibody to hepatitis B core antigen (anti-HBc) positive
  OR
- loss of HBsAg over 6 months in the context of a compatible clinical history or probable exposure
  OR
- acute clinical illness[1] and HBsAg positive (and anti-HAV negative and anti-HCV negative) when the test for IgM antibody to anti-HBc is not available

---

Probable Case

acute clinical illness[1] in a person who is epidemiologically linked to a confirmed case

---

National Surveillance

confirmed acute case

Type of Surveillance

case-by-case

Date of Revision

October 1999

[1] Acute clinical illness is characterized by a discrete onset of symptoms and jaundice or elevated serum aminotransferase levels.

National Surveillance
Case Definition for Hepatitis B (Chronic Carrier)

Case Classification

Confirmed Case

laboratory confirmation of infection with/without symptoms:

- persistence of HBsAg positivity for more than 6 months
  OR
- HBsAg positivity in a person who is immunoglobulin G (IgG) antibody to hepatitis B core antigen (anti-HBc-IgG) positive and immunoglobulin M (IgM) antibody to hepatitis B core antigen (anti-HBc-IgM) negative

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National Surveillance

not reported nationally but may be reported locally or provincially in accordance with local or provincial regulations

---

Type of Surveillance

case-by-case

Date of Revision

October 1999

National Surveillance

Case Definition for Invasive *Haemophilus influenzae* type b (Hib) Disease

Case Classification

Confirmed Case

invasive disease[1] with laboratory confirmation of infection in the absence of recent immunization with Hib-containing vaccine:

- isolation[2] of *H. influenzae* type b from a normally sterile site
  OR
- isolation of *H. influenzae* type b from the epiglottis in a person with epiglottitis
  OR
- demonstration of *H. influenzae* type b antigen in cerebrospinal fluid

---

Probable Case

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

---

National surveillance

confirmed case

Type of Surveillance

case-by-case

Date of Revision

October 1999

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[1] Invasive disease due to *H. influenzae* includes meningitis, bacteremia, epiglottitis, pneumonia, pericarditis, septic arthritis, or empyema.

[2] Use isolation when there is no PCR test.

National Surveillance
Case Definition for Measles

Case Classification

Confirmed Case

laboratory confirmation of infection in the absence of recent immunization with measles-containing vaccine:

1. isolation of measles virus from an appropriate clinical specimen
   OR
2. significant rise in measles specific antibody titre between acute and convalescent sera
   OR
3. positive serologic test for measles IgM antibody using a recommended assay. If the clinical and epidemiologic presentations are inconsistent with a diagnosis of measles, IgM results must be confirmed by additional testing (e.g. 1 or 2 above).
   OR

clinical illness[1] in a person who is epidemiologically linked to a laboratory-confirmed case

---

Probable Case

clinical illness[1] in the absence of appropriate laboratory tests and not epidemiologically linked to a laboratory-confirmed case

---

National Surveillance

confirmed case

Type of Surveillance

case-by-case

Date of Revision

January 2000

NOTE: All cases will be reviewed by the Working Group on Measles Elimination to determine status before being added to the national database.

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[1] Clinical illness is characterized by all of the following features:

- fever 38.3°C or greater
- cough, coryza, or conjunctivitis
- generalized maculopapular rash for at least 3 days

National Surveillance
Case Definition for Mumps

Case Classification

Confirmed case

laboratory confirmation of infection[1] in the absence of recent immunization with mumps-containing vaccine:

- isolation of mumps virus from an appropriate clinical specimen
  OR
- significant rise or seroconversion in serum mumps IgG titre by any standard serologic assay
  OR
- positive serologic test for mumps IgM antibody

OR

clinical illness[2] in a person who is epidemiologically linked to a laboratory-confirmed case

---

Probable Case

clinical illness[2] in the absence of appropriate laboratory tests and not epidemiologically linked to a laboratory-confirmed case

---

National Surveillance

confirmed case

Type of Surveillance

case-by-case

Date of Revision

October 1999

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[1] A laboratory-confirmed case does not have to meet the clinical illness description.

[2] Clinical illness is characterized by acute onset of unilateral or bilateral tender, self-limited swelling of the parotid or other salivary gland, lasting $\geq$ 2 days, and without other apparent cause.

National Surveillance
Case Definition for Acute Flaccid Paralysis (AFP)

Case Classification

Confirmed Case

acute onset of focal weakness or paralysis characterized as flaccid (reduced tone) without other obvious cause (e.g. trauma) in children < 15 years old, including Guillain Barré Syndrome. Transient weakness (e.g. post-ictal weakness) should not be reported.

National Surveillance

The Expert Working Group on Polio Eradication has recommended that surveillance of AFP remain with the Canadian Pediatric Surveillance Program (CPSP). CPSP is undertaken by the Canadian Paediatric Society under contract with LCDC.

National Surveillance
Case Definition for Pertussis

Case Classification

Confirmed Case

laboratory confirmation of infection:

- isolation of *Bordetella pertussis* from an appropriate clinical specimen

OR

- positive polymerase chain reaction (PCR) assay for *B. pertussis*

OR

a person who is epidemiologically linked to a laboratory-confirmed case with one or more of the following for which there is no other known cause:

- paroxysmal cough of any duration
- cough ending in vomiting, or associated with apnea
- cough with inspiratory whoop

Probable Case

cough lasting 2 weeks or longer in the absence of appropriate laboratory tests and not epidemiologically linked to a laboratory-confirmed case **and one or both** of the following with no other known cause:

- paroxysmal cough
- inspiratory “whoop”

Suspected Case

See the following: National Advisory Committee on Immunization, the Advisory Committee on Epidemiology, and the Canadian Pediatric Society. *Statement on management of persons exposed to pertussis and pertussis outbreak control.* Can Dis Wkly Rep 1994:20:193-99.

National Surveillance

confirmed case

Type of Surveillance

case-by-case

Date of Revision

October 1999

National Surveillance
Case Definition for Poliomyelitis

Case Classification

Confirmed Case

clinical illness[1] with laboratory confirmation of infection:

- isolation of polio virus (vaccine or wild type) from an appropriate clinical specimen
  OR
- positive PCR assay for polio virus
  OR

clinical illness[1] in a person who is epidemiologically linked to a laboratory-confirmed case

---

Probable Case

clinical illness[1] without detection of polio virus from an appropriate clinical specimen and without evidence of infection with other neurotropic viruses but with one of the following laboratory confirmations of infection:

- significant rise in polio virus antibody titre in paired sera
  OR
- the presence of polio-specific IgM antibody in the absence of recent immunization with polio virus-containing vaccine

---

Suspected Case

clinical illness[1] and no laboratory confirmation of infection (no polio virus detection or serologic evidence), including negative test results, and inadequate or no investigation

Paralytic polio can be subdivided into the following categories:

Wild virus

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

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

Vaccine-associated

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 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.

Important NOTE: all cases will be reviewed by the Working Group on Polio Eradication to determine their classification

National Surveillance

confirmed case

Type of Surveillance

case-by-case

Date of Revision

October 1999

[1] Clinical illness is characterized by all of the following:

- acute flaccid paralysis of one or more limbs
- decreased or absent deep tendon reflexes in the affected limbs
- no sensory or cognitive loss
- no other apparent cause (including laboratory investigation to rule out other causes of a similar syndrome)
- neurologic deficit present 60 days after onset of initial symptoms unless the patient has died

National Surveillance
Case Definition for Rubella

Case Classification

Confirmed case

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

- isolation of rubella virus from an appropriate clinical specimen
  OR
- significant rise in serum rubella IgG antibody level by any standard serologic assay
  OR
- positive serologic test for rubella-specific IgM

OR

clinical illness[1] in a person who is epidemiologically linked to a laboratory-confirmed case

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Probable Case

clinical illness[1] in the absence of appropriate laboratory tests and not epidemiologically linked to a laboratory-confirmed case

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National Surveillance

confirmed case

Type of Surveillance

case-by-case

Date of Revision

October 1999

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[1] Clinical illness is characterized by fever and rash, and at least one of the following:

- arthralgia/arthritis
- lymphadenopathy
- conjunctivitis

National Surveillance
Case Definition for Congenital Rubella Syndrome (CRS)

Case Classification

Confirmed Case

Live birth: two clinically compatible manifestations (any combination from Table 1, Columns A and B) with laboratory confirmation of infection:

- isolation of rubella virus from an appropriate clinical specimen
  OR
- detection of rubella-specific IgM in the absence of recent immunization with rubella-containing vaccine
  OR
- rubella-specific IgG persisting at elevated levels for longer than would be expected from passive transfer of maternal antibody, or in the absence of recent immunization

Still birth: two clinically compatible manifestations with isolation of rubella virus from an appropriate clinical specimen

---

Probable Case

a case that has at least

- any *two* clinically compatible manifestations listed in Table 1, column A
  OR
- *one* manifestation listed in Table 1, column A, plus *one* listed in Table 1, column B, in the absence of appropriate laboratory tests

NOTE: The following cannot be classified as a CRS case:

- rubella antibody titre absent in the infant
  OR
- rubella antibody titre absent in the mother
  OR
- rubella antibody titre declining in the infant consistent with the normal decline after birth of passively transferred maternal antibody

Table 1. 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. Mental retardation 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

National Surveillance

confirmed case

Type of Surveillance

case-by-case

Congenital Rubella Infection

Confirmed Case

A case with laboratory confirmation of infection but with no clinically compatible manifestations:

- isolation of rubella virus from an appropriate clinical specimen
  OR
- detection of rubella-specific IgM in the absence of recent immunization with rubella-containing vaccine
  OR
- persistence of rubella-specific IgG at elevated levels for longer than would be expected from passive transfer of maternal antibody, or in the absence of recent immunization

National Surveillance

confirmed case

Type of Surveillance

case-by-case

Date of Revision

October 1999

National Surveillance
Case Definition for Tetanus

Case Classification

Confirmed Case

clinical illness[1] without other apparent medical cause with or without laboratory evidence of *Clostridium tetani* or its toxin and with or without history of injury

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National Surveillance

confirmed case

Type of Surveillance

case-by-case

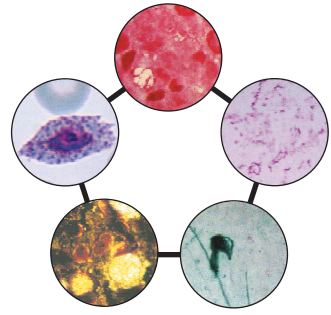
Date of Revision

October 1999

[1] Clinical illness is 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.

Worldwide Potential Bioterrorism Agents

- **Anthrax**
- **Botulism** (see page 9)
- **Plague** (see page 85)
- **Smallpox**
- **Tularemia**
- **Viral Hemorrhagic Fevers**



National Surveillance
Case Definition for Anthrax

Case Classification

Confirmed Case

clinical illness[1] with laboratory confirmation of infection:

- isolation of *Bacillus anthracis* from an appropriate clinical specimen
  OR
- demonstration of *B. anthracis* in a clinical specimen by immunofluorescence

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Probable Case

suspected case that has

- a positive reaction to allergic skin test (in non-vaccinated individuals)
  OR
- positive polymerase chain reaction (PCR) for *B. anthracis*[1]

Suspected Case

clinical illness in a person who is epidemiologically linked to a confirmed or suspected animal case or contaminated animal product

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National Surveillance

confirmed case
probable case
suspected case

Type of Surveillance

case-by-case

[1] PCR will be used to confirm cases as it becomes validated.

National Surveillance
Case Definition for Smallpox

Case Classification

Confirmed Case

laboratory confirmation of infection:

- isolation of variola virus from an appropriate clinical specimen (tier 3 laboratory only)
  OR
- positive PCR for variola virus
  OR
- negative stain electron microscopy identification of variola virus in an appropriate clinical specimen

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Probable Case

clinical illness[1] in a person who is epidemiologically linked to a laboratory-confirmed case or to a probable case

---

Suspected Case

- clinical illness[1] in a person who is not epidemiologically linked to a laboratory-confirmed case or to a probable case of smallpox
  OR
- atypical lesion[2] known to be associated with the variola virus on a person who is epidemiologically linked to a laboratory-confirmed or probable case

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National Surveillance

confirmed case
probable case
suspected case

Type of Surveillance

case-by-case

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[1] Clinical illness is characterized by acute onset of fever of > 38.33° 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 > 38.88° 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.

[2] Atypical presentations of smallpox include a) hemorrhagic lesions OR b) flat velvety lesions not appearing as typical vesicles or not progressing to pustules.

National Surveillance
Case Definition for Tularemia

Case Classification

Confirmed Case

clinical illness[1] with laboratory confirmation of infection:

- isolation of *Francisella tularensis* in an appropriate clinical specimen
  OR
- fourfold or greater change in serum antibody titre to *F. tularensis* antigen

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Probable Case

- clinical illness[1] with elevated serum antibody titre(s) to *F. tularensis* antigen (without documented fourfold or greater change) in a patient with no history of tularemia vaccination
  OR
- detection of *F. tularensis* in a clinical specimen by fluorescent assay
  OR
- positive PCR for *F. tularensis*

National Surveillance

confirmed case
probable case

Type of Surveillance

case-by-case

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[1] Clinical illness is characterized by several distinct forms, including the following: ulceroglandular – cutaneous ulcer with regional lymphadenopathy; glandular – regional lymphadenopathy with no ulcer; oculoglandular – conjunctivitis with preauricular lymphadenopathy; oropharyngeal – stomatitis or pharyngitis, or tonsillitis and cervical lymphadenopathy; 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.

National Surveillance

Case Definition for Viral Hemorrhagic Fevers (Crimean Congo, Ebola, Lassa, Marburg)

Case Classification

Confirmed Case

clinical illness[1] with laboratory confirmation of infection or a probable case with laboratory confirmation of infection:

- isolation of virus from serum or urine specimens, or throat secretions
  OR
- demonstration of virus antigen in autopsy tissue (liver or spleen) by immunohistochemical techniques or in serum samples by enzyme-linked immunosorbent assay (ELISA)
  OR
- demonstration of a fourfold rise in IgG serum antibody
  OR
- demonstration of specific IgM antibody by ELISA, immunofluorescent assay, or Western Blot

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[1] Clinical description of the viral hemorrhagic fevers

Crimean Congo VHF illness: Sudden onset of fever, myalgia, dizziness, neck pain and stiffness, backache, headache, sore eyes, and photophobia. There may be nausea, vomiting, and sore throat early on, which may be accompanied by diarrhea and generalized abdominal pain. Over the next few days, the patient may experience sharp mood swings and may become confused and aggressive. After 2 to 4 days, the agitation may be replaced by sleepiness, depression, and lassitude, and the abdominal pain may localize to the right upper quadrant, with detectable hepatomegaly. Other clinical signs that emerge include tachycardia, lymphadenopathy, and a petechial rash on internal mucosal surfaces, such as in the mouth and throat, as well as on the skin. The petechiae may give way to ecchymoses and other hemorrhagic phenomena such as melena, hematuria, epistaxis, and bleeding from the gums. There is usually evidence of hepatitis. The severely ill may develop hepatorenal and pulmonary failure after the fifth day of onset of symptoms.

Lassa VHF illness: Gradual onset with malaise, fever, headache, sore throat, cough, nausea, vomiting, diarrhea, myalgia, and chest and abdominal pain. Fever is persistent or spikes intermittently. Inflammation and exudation of the pharynx and conjunctivae are commonly observed followed by hypotension, shock, pleural effusion, hemorrhage, seizures, encephalopathy, and edema of the face and neck.

Ebola and Marburg VHF illness: Sudden onset of fever, malaise, and headache followed by pharyngitis, vomiting, diarrhea, and shock. The accompanying hemorrhagic diathesis is often accompanied by hepatic damage, renal failure, involvement of the central nervous system, and terminal shock with multi-organ dysfunction.

Probable Case

a case with symptoms compatible with clinical illness[1] 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
- direct contact with blood or other body fluid secretions or excretions of a person or animal with a confirmed or probable case of VHF
  OR
- work in a laboratory or animal facility that handles hemorrhagic fever viruses
  OR
- detection of viral genomic sequences in serum or autopsy tissue by PCR

Suspected Case

A case compatible with the clinical description

National Surveillance

confirmed case
probable case
suspected case

Type of Surveillance

case-by-case