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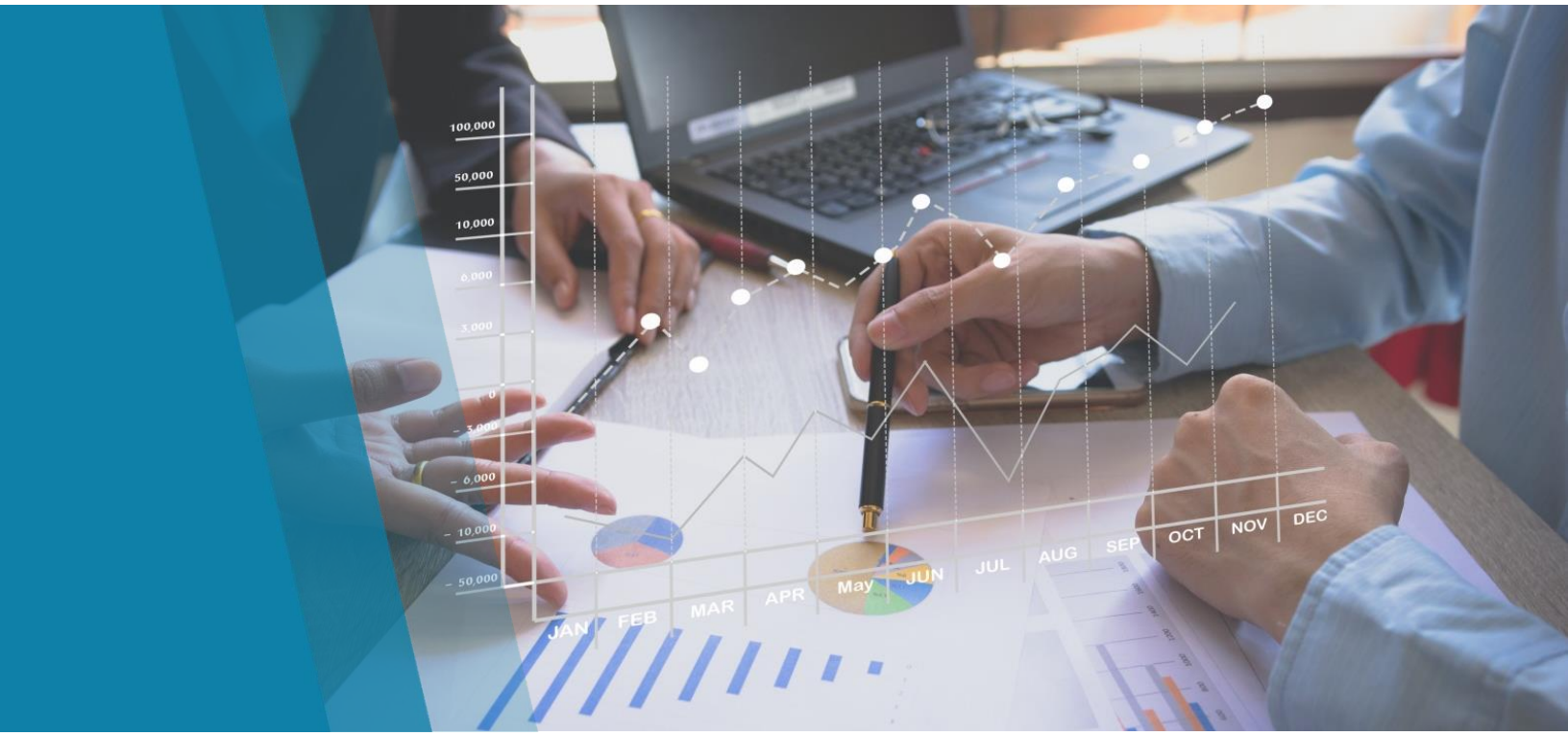
Appendix: Factors affecting Case Definition Changes in Ontario

1991-2016



Technical Report: Appendix

October 2018

Public Health Ontario

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Contributing Authors

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Contents

A guide to use the Appendix

This document is an Appendix to the Factors affecting Reportable Diseases in Ontario (1991-2016) report. Changes in case definitions were documented for all included reportable diseases from 1991 to 2016 based on the RDIS Guidelines[2], iPHIS Manual[3], and the Infectious Diseases Protocol[4]. These modifications were recorded in a timeline format, showing all the years in which important changes occurred.

The tables in this Appendix show case definition changes in alphabetical order, with the name of the reportable disease and the date when it first became reportable in the titles. While the first reportable date for all the diseases have been based on the HPPA, R.S.O. 1990,[1] many of the diseases have actually been reportable in Ontario and Canada since before 1991. The columns in the tables provide the case definitions, including laboratory testing methods. Each point in the definition is numbered for differentiating each of the criteria of the definition.

If there were partial changes in definitions during subsequent years, the full definition of the disease was not provided. Rather, only the changes compared to the previous definition are fully written out. For example, if a probable definition is added in 2009, but there have been no changes made to the 1996 year confirmed case definition, the probable case definition would be fully written. For the confirmed case definition, “1996 case definition” would be written. If only part of the previous confirmed case definition is kept unchanged, “1996 case definition (#1)” would be written, where the number corresponds to the particular criteria of the previous definition which is kept unchanged.

Acute Flaccid Paralysis

First reportable in 2013 through an amendment to O. Reg 559/91 under HPPA R.S.O. 1990

2013
Confirmed cases:
Acute onset of focal weakness or paralysis characterized as flaccid (reduced tone) without other obvious cause (e.g., trauma) in children < 15 years old. Cases of Guillain-Barré Syndrome (GBS) should be included as cases of AFP. Although this is categorized as "confirmed" it is actually a clinical case definition. Transient weakness (e.g., post-ictal weakness) should not be reported.

Amebiasis

First reportable in 1991 under HPPA R.S.O. 1990

1996	2009	2015
Confirmed cases only: Clinically compatible signs and symptoms **AND** 1. Demonstration of trophozoites or cysts (*E. histolytica/dispar)* in an appropriate laboratory specimen **OR** 2. Positive serological test(s) for *Entamoeba histolytica* **OR** 3. An epi link to one or more laboratory confirmed cases	Confirmed: Symptomatic or asymptomatic **AND** 1. Positive serological test(s) for *E. histolytica,* titre >1:512 **OR** 2. Positive for *E. histolytica* by stool antigen ELISA on unpreserved stool samples **OR** 3. Demonstration of trophozoites in intestinal tissue biopsy or ulcer scraping (e.g., Iron-Haematoxylin [IH] stained smears) **OR** 4. Demonstration of trophozoited in extra-intestincal tissues (e.g., Haematoxylin and Eosin [HandE] stained sections Probable: 1. 1996 case definition (#3) **OR** 2. Asymptomatic/symptomatic **AND** Presence of *E. histolytica/dispar* cysts and trophozoites by microscopy	Confirmed: Symptomatic or asymptomatic **AND** 1. Demonstration of ingested RBCs in hypertrophized trophozoites of *Entamoeba histolytica (E. histolytica)* in preserved stool samples **OR** 2. 2009 case definition (#2) **OR** 2009 case definition (#3and4), but trophozoites described as hypertrophied Probable: 1. 1996 case definition (#3) **OR** 2. 2009 case definition (#2)

Anthrax

First reportable in 1991 under HPPA R.S.O. 1990

1996	2009	2014
Confirmed cases only: Clinically compatible signs and symptoms **AND** 1. Culture of *Bacillus anthracis* **OR** 2. ≥4-fold rise in antibody titre in paired sera **OR** 3. Identification of *B. anthracis* using the fluorescent antibody technique	Confirmed: 1. 1996 case definition (#1) **OR** 2. 1996 case definition (#3) Probable: Clinically compatible signs and symptoms **AND** Detection of *B. anthracis* DNA detection **AND** Epi-link to a confirmed case or suspected source Suspect: Clinically compatible signs and symptoms **AND** Epi-link to a confirmed case or suspected source *1996, case definition (#2) eliminated*	Confirmed: 1. 2009 case definition, from a clinical specimen (e.g., blood) **OR** 2. 2009 case definition, in a clinical specimen (e.g., blood) Probable: 2009 case definition Suspect: 2009 case definition

Acquired Immunodeficiency Syndrome (AIDS)

First reportable in 1991 under HPPA R.S.O. 1990

1996	2009	2014
Without HIV lab evidence and immunodeficiency that disqualifies AIDS: 1. High dose or long-term systemic corticosteroid therapy or other immunesuppresive/cytotoxic therapy ≥ 3 months before onset of indicator disease 2. Any of following diseases diagnosed ≥3 months after diagnosis of indicator disease: Hodgkin's disease, non-Hodgkin's lymphoma, lymphocytic leukemia, multiple myeloma, any other cancer of lymphreticular or histiocytic tissue, or angioimmunoblastic lymphadenopathy 3. A genetic immunodeficiency syndrome or an acquired immunodefieciency syndrome atypical of HIV infection, such as one involving hypogammaglobulinemia **AIDS indicator diseases diagnosed definitely:** • Bacterial infections, multiple or recurrent within a 2-year period, affecting a child <13 years	*Compared to previous case definitions, a confirmed HIV positive test is required* Confirmed case of HIV Infection: **Children <18 months** Detection of HIV nucleic acid (by DNA PCR) **OR** Detection of p24 antigen in two separate samples collected one month and four months after delivery **Adults, Adolescents, Children >18 months** Detection of HIV antibody with confirmation **OR** Detection of HIV nucleic acid **OR** Detection of p24 antigen Confirmed case of AIDS: Positive test for HIV infection with confirmation **AND**	HIV Infection: **Children <18 months** 2009 case definition **OR** Isolation of HIV in culture **Adults, Adolescents, Children >18 months** 2009 case definition **OR** Isolation of HIV in culture AIDS: 2009 case definition, **but** indicative diseases now include • M. tuberculosis (pulmonary)

1996	2009	2014
(septicemia, pneumonia, meningitis, bone or joint infection, or abscess of an internal organ or body cavity), caused by *Haemophilus, Streptococcus*, or other pyogenic bacteria* • Candidiasis of esophagus, trachea, bronchi, lungs • Coccidioidomycosis, disseminated (at a site other than or in addition to lungs or cervical or hilar lymph nodes)* • Cryptococcosis (extrapulmonary) • Cryptosporidiosis with diarrhoea persisting >1 month • Cytomegalovirus disease (other than liver, spleen, or lymph nodes in patient >1month age) • Cytomegalovirus retinitis with loss of vision • Herpes simplex: chronic ulcers (>1 month duration) or bronchitis, pneumonitis or esophagitis, in a patient >1 month age • Histoplasmosis, disseminated (at a site other than or in addition to lungs or cervical or hilar lymph nodes)* • HIV encephalopathy* • HIV wasting syndrome* • Invasive cervical cancer* • Isosporiasis with diarrhoea	Definitive diagnosis of one or more AIDS indicative diseases, including: **Adults and adolescents > 15 years of age** • Bacterial pneumonia (recurrent) • Candidiasis (bronchia, trachea or lungs) • Candidiasis (esophageal) • Cervical cancer (invasive)* • Coccidioidomycosis (disseminated or extrapulmonary) • Cryptococcosis (extrapulmonary) • Cryptosporidiosis chronic intestinal (>1 month duration) • Cytomegaleovirus diseases (other than liver, spleen, nodes) • Cytomegalovirus retinitis (with loss of vision) • Encephalopathy, HIV-related (dementia)* • Herpes simplex: chronic ulcers (>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. kansaii* (disseminated or extrapulmonary) • *Mycobacterium* of other species or	

1996	2009	2014
persisting 1 month* • Kaposi's sarcoma affecting a patient* (HIV positive test not req. for <60 years age) • Lymphoma of brain affecting patient* (HIV positive test not req. for <60 years age) • Lymphoid interstitial pneumonia and/or pulmonary lymphoid hyperplasia affecting patient <13 years of age • *Mycobacterium avium* complex or *M. kanasii* disease, disseminated (at a site other than or in addition to lungs, skins, cervical or hilar lymph nodes) • *M. tuberculosis* disease, pulmonary and extrapulmonary* • Mycobacterial disease caused by mycobacteria other than *M. tuberculosis*, disseminated * • Non-Hodgkin's lymphoma of B-cell or unknown immunologic phenotype and following histologic types: small non-cleaved lymphoma (Burkitt or non-Burkitt type); immunoblastic sarcoma* • *Pneumocystis carinii* pneumonia • Progressive multifocal leukoencephalopathy • Recurrent bacterial pneumonia* • *Salmonella* (non-typhoid) septicemia, recurrent*	unidentified species • *M. tuberculosis* (disseminated or extrapulmonary) • *Pneumocystis carinii* pneumonia (renamed: *Pneumocystis jirovecii*) • Progressive multifocal leukoencephalopathy* • Salmonella septicemia (recurrent) • Toxoplasmosis of brain • Wasting syndrome due to HIV *=new diseases added, compared to last case definition **Pediatric cases (<15 years)** • Bacterial infections (multiple or recurrent, excluding recurrent bacterial pneumonia) • Lymphoid interstitial pneumonia and/or pulmonary lymphoid hyperplasia	

1996	2009	2014
• Toxoplasmosis of brain in a patient >1 month of age *= Requires HIV+ lab evidence **HIV negative lab evidence and diagnosis of AIDS** • Above criteria **AND** • a T-helper/induce (CD4) lymphocyte count <400/mm^3		

Botulism

First reportable in 1991 under HPPA R.S.O. 1990

1996	2009	2014
Confirmed cases only:	Confirmed:	Confirmed:
	Requires definitive lab evidence	Requires definitive lab evidence
Foodborne	**Foodborne**	**Foodborne**
Clinically compatible signs and symptoms **AND** exposure to probable food source **AND** Detection of botulinal toxin in serum, stool or suspect food **OR** 1. Isolation of *Clostridium botulinum* from stools **OR** 2. An epi link to a lab-confirmed case of foodborne botulism **OR** 3. No laboratory confirmation but overwhelming clinical evidence of botulism	1. 1996 case definition (#1) 2. 1996 case definition (#2)	Clinically compatible signs and symptoms **AND** 1. 2009 case definition (#1), "botulinal" revise to "botulinum" **OR** 2. 2009 case definition (#2), or gastric aspirate
Wound	**Wound**	**Wound**
Clinically compatible signs and	1996 case definition	1996 case definition **AND** no evidence of consumption of food contaminated with *C. botulinum* **AND** 1. 1996 case definition (#1) **OR** 2. 1996 case definition (#2), revised "of **botulinum** toxin"
	Intestinal/Colonization Botulism	**Intestinal/Colonization Botulism**
	Clinically compatible signs and symptoms	

1996	2009	2014
symptoms **AND** no history of exposure to suspect food **AND** Fresh contaminated wound within 2 weeks of onset of symptoms **AND** 1. Isolation of *C. botulinum* from a wound culture **OR** 2. Detection of toxin in serum	**AND** 1. ≥ 1 year with severely compromised GI tract functioning due to various diseases such as colitis, or occurring in assoc. with other conditions or procedures that may create local or widespread disruption in normal intestinal flora **OR** 2. Detection of botulinum toxin in stool or serum **OR** 3. Isolation of *C. botulinum* from patient's stool, or at autopsy	Clinically compatible signs and symptoms **in a patient aged 1+** **AND** 1. 2009 case definition (#2) **OR** 2. 2009 case definition (#3), revised "**over a prolonged period of time** or at autopsy" *2009 case definition (#1) eliminated*
Infant Botulism Symptoms compatible with infant botulism (incl. sudden infant death syndrome) in a person less than one year of age **AND** 1. Detection of botulinal toxin **OR** 2. Isolation of *C. botulinum* from patient's stool or autopsy	**Infant Botulism** 1996 case definition Probable: Split from Foodborne Botulism in 1996 definition (#3) Suspect: Overwhelming clinical evidence of botulism, as determined by MOH, in absence of lab-confirmation or an epidemiologic link	**Infant Botulism** 1996 case definition, but "botilinal" revised to "botulinum"; and (#1), in stool or serum Probable: 2009 case definition Suspect: 2009 case definition, revised "**Clinical evidence strongly suggestive** of…"; "by MOH **or attending physician"**

Brucellosis

First reportable in 1991 under HPPA R.S.O. 1990

1996	2009	2014
Confirmed cases only: Clinically compatible signs and symptoms **AND** 1. A positive culture for a species of *Brucella* **OR** 2. Detection of *Brucella* antigen **OR** 1. A ≥4-fold increase in titre to >1/80 by standard tube agglutination or equivalent against *Brucella* in specimens obtained 2 or more weeks apart and studied in same laboratory **OR** 2. 4. A single high titre against *Brucella* >1/160	Confirmed: 1. 1996 case definition (#1) **AND** 2. 1996 case definition (#3) Probable: Clinically compatible signs and symptoms **AND** 1. 1996 case definition (#4) **OR** 2. Epidemiologic link to a confirmed case *1996, case definition (#2) eliminated*	Confirmed: Clinically compatible signs and symptoms **AND** 1. 2009 case definition (#1), from an appropriate clinical specimen (e.g., blood, tissue) **AND** 2. A significant (≥4-fold) rise in *Brucella* agglutination titre between acute and convalescent serum specimens obtained 2+ weeks apart Probable: Clinically compatible signs and symptoms **AND** 1. 2009 case definition (#1), changes: Supportive serology (i.e. *Brucella* agglutination test titre of 1:160 or higher in 1 or more serum specimens obtained after onset of symptoms) **OR** 2. 2009 case definition (#2), or suspected source **OR** 3. Detection of *Brucella* spp. DNA from an appropriate clinical specimen

Campylobacter Enteritis

First reportable in 1991 under HPPA R.S.O. 1990

1996	2009	2014
Confirmed cases only: Clinically compatible signs and symptoms **AND** 1. Isolation of Campylobacter from the stool or from body fluids **OR** 2. An epi link to two or more laboratory confirmed cases	Confirmed: 1. 1996 case definition (#1), but symptomatic or asymptomatic Probable: Clinically compatible signs and symptoms in a person with an epi linked to a lab confirmed case	Confirmed: 1. 2009 case definition (#1), but "from the stool or from body fluids" changed to "from **an appropriate clinical specimen (e.g. stool, urine, body fluids)"** **OR** 2. Detection of *Campylobacter* spp. by NAAT from an appropriate clinical specimen Probable: 2009 case definition

Chancroid

First reportable in 1991 under HPPA R.S.O. 1990

1996	2009
Confirmed cases only: Clinically compatible signs and symptoms **AND** 1. Lab identification of *Haemophilus ducreyi* in specimen taken from any anatomical site **OR** 2. An epi-link to a lab-confirmed case	Confirmed: 1996 case definition (#1) Probable: 1996 case definition (#2)

Chickenpox (Varicella)

First reportable in 1991 under HPPA R.S.O. 1990

1996	2009	2014
Confirmed cases only: Clinically compatible signs and symptoms **AND** 1. Isolation of virus from vesicular fluid **OR** 2. Serological evidence of infection **OR** 3. Patient with a typical generalized rash evolving from macules to papules, vesicles and crusts	Confirmed cases only: Laboratory confirmation of infection with clinically compatible signs and symptoms in absence of recent immunization with varicella containing vaccine **AND** 1. 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** 2. Detection of VZV DNA by NAT **OR** 3. Seroconversion or significant rise by any standard serologic assay in varicella-zoster IgG titre between acute and convalescent sera **OR** 4. Positive serologic test for varicella-zoster IgM antibody **OR** Clinically compatible signs and symptoms	Confirmed: Clinical evidence of illness and laboratory confirmation of infection: 2009 case definition (#1-4), except: (#2) *"by nucleic acid test (NAT)" omitted* **OR** Clinical evidence of illness in a person with an epi-link to lab-confirmed case of chickenpox or VZV infection Probable*: Clinical evidence of illness in the absence of laboratory confirmation or epi-link to a lab-confirmed case. * Probable case definitions are provided as guidelines to assist with case finding and public health management, and are not for reporting purposes.

Chlamydia trachomatis infections

First reportable in 1991 under HPPA R.S.O. 1990

1996	2009	2014
Confirmed cases only: **Genital Chlamydia** 1. *Chlamydia trachomatis* detected in genital tract or rectal specimen **OR** 2. Clinically compatible signs and symptoms **AND** epi-link to a lab-confirmed case **Pneumonia** 3. Infant <6months of age with clinically compatible signs and symptoms **AND** detection *C. trachomatis* in nasopharyngeal specimens and/or tracheal aspirates	Confirmed cases only: 1996 case definition, Genital Chlamydia (#1) *1996 case definition (#2 and 3) eliminated*	Confirmed: 2009 case definition, except slight change: *Chlamydia trachomatis* detected in **an appropriate clinical specimen (e.g., urogenital tract, rectal, or pharyngeal specimen)** Probable: Clinically compatible signs and symptoms **AND** epi-link to a lab-confirmed case

Cholera

First reportable in 1991 under HPPA R.S.O. 1990

1996	2009	2014
Confirmed cases only: Clinically compatible signs and symptoms **AND** Isolation of *Vibrio cholera* serovar 01 or serovar which has been shown to be toxin-producing from stool or body fluids	Confirmed: 1996 case definition **OR** Isolation of *V. cholera* serovar O139 from appropriate specimen Probable: Clinically compatible signs and symptoms in a person with an epi link to a lab-confirmed case	Confirmed: 2009 case definition, but "*serovar which has been shown to be toxin-producing from stool or body fluids" omitted* **OR** Detection of *V. cholerae* by NAAT from an appropriate specimen Probable: 2009 case definition

Cryptosporidiosis

First reportable in 1996 through an amendment to O. Reg 559/91 under HPPA R.S.O. 1990

1996	2009	2015
Confirmed cases only: Clinically compatible signs and symptoms **AND** 1. Demonstration of oocysts in stool or of life-cycle stages of the parasite in intestinal biopsy sections **OR** 2. An epi link to one or more lab confirmed cases	Confirmed: Lab confirmation **AND** symptomatic or asymptomatic **AND** 1. Demonstration of *Cryptosporidium* oocysts **OR** 2. Detection of *Cryptosporidium* DNA **OR** 3. Demonstration of *Cryptosporidium* antigen by an approved method (e.g., enzyme immunoassay [EIA], immunochromatographic test [ICT]) Probable: 1996 case definition (#2)	Confirmed: Lab confirmation of infection from appropriate clinical specimen (e.g., stool, intestinal fluid, small bowel biopsy) **AND** symptomatic or asymptomatic: 1. 2009 case definition **OR** 2009 case definition (#2 and 3) Probable: 2009 case definition

Cyclosporiasis

First reportable in 2001 through an amendment to O. Reg 559/91 under HPPA R.S.O. 1990

2001	2009	2011	2014
Confirmed cases only: Clinically compatible signs and symptoms **AND** 1. Demonstration of *Cyclospora* oocysts (by morphologic criteria or by demonstration of sporulation) in stool/jejunal aspirates or small bowel biopsy specimens **OR** 2. Demonstration of *Cyclospora* DNA (by PCR) in stool/jejunal aspirates or small bowel biopsy specimens **OR** 3. An epi link to one or more lab confirmed cases	Confirmed: Symptomatic or asymptomatic **AND** 1. 1996 case definition (#1) **OR** 2. 1996 case definition (#2) Probable: 1996 case definition (#3)	Confirmed: Lab confirmation of infection, symptomatic or asymptomatic, from an appropriate clinical specimen (e.g.: stool, duodenal/ jejunal aspirate, small bowel biopsy): 1. Demonstration of Cyclospora cayetanensis oocysts (by morphologic criteria) **OR** 2. Cylclospora DNA, by polymerase chain reaction (PCR) Probable: 2009 case definition by: 1. Consumption of the same food or food exposure to food known to be handled by a confirmed case **OR** 2. History of travel to a cyclospora-endemic area	Confirmed: 2011 case definition, "*Cyclospora* oocysts" changed to "*Cyclospora cayetanensis* oocysts (by morphologic criteria)" Probable: Back to 2009 case definition

Cytomegalovirus infection, congenital

First reportable in 1991 under HPPA R.S.O. 1990

1996	2002	2004	2009	2013
Confirmed: Clinically compatible signs and symptoms in a liveborn/stillborn **AND** 1. Isolation of virus in first 3 weeks of life **OR** 2. Demonstration of typical cytomegalic inclusion-bearing cells in sediments of body fluids or in organs in first 3 weeks of life **OR** 3. Serological evidence of CMV IgM within first 3 weeks of life Suspect: Detection of CMV in urine, saliva, secretions or tissue obtained after first 3 weeks to ≤5 years of life	Confirmed cases only: 1996 case definition *Suspect case definition eliminated*	Confirmed: 1996 case definition Suspect: 1996 case definition	Confirmed: Liveborn (within first 3 weeks of life) with clinically compatible signs and symptoms **AND** lab evidence of CMV from an appropriate clinical site (urine, saliva, secretions, tissue) **OR** Stillborn with lab evidence of CMV Probable: Presence of one or more clinically compatible signs and symptoms, obtained in first 3 months of life and exclusion of other diseases that produces these abnormalities *(lab test not needed)*	**Not reportable as of December 4, 2013**

1996	2002	2004	2009	2013
with presence of one or more of following signs, symptoms, and laboratory abnormalities in the first 3 months of life and exclusion of other diseases that produce these abnormalities: purpura, splenomegaly, hepatomegaly, microcephaly, chorioretinitis, intra-cranial calcifications, hearing impairment and platelet count of $\leq$75,000/mm^3				

Diphtheria

First reportable in 1991 under HPPA R.S.O. 1990

1996	2009	2014
Confirmed cases only: Clinically compatible signs and symptoms **AND** Isolation of toxigenic *Corynebacterium diphtheria* from nasopharyngeal, nasal or cutaneous sites	Confirmed: Clinically compatible signs and symptoms in a person with an upper respiratory tract infection or infection at another site **AND** 1. Isolation of *C. diphtheria* with confirmation of toxin from an appropriate clinical specimen **OR** 2. Histopathologic diagnosis of diphtheria **OR** 3. Epi-link to a lab-confirmed case (contact within 2 weeks prior to onset of symptoms) Probable: Clinically compatible signs and symptoms in the absence of lab confirmation or absence of epi-link to a lab confirmed case	Confirmed: Clinical illness or systemic manifestations compatible with diphtheria in a person with an upper respiratory tract infection or infection at another site (e.g., wound, cutaneous) **AND** 2009 case definition (#1-3) **OR** 4. Isolation of other toxigenic Corynebacterium species (*C. ulcerans* or *C. pseudotuberculosis*) from an appropriate clinical specimen Probable: 2009 case definition

Food poisoning

First reportable in 1991 under HPPA R.S.O. 1990

1996	2009	2014
Confirmed cases only: Clinically compatible signs and symptoms, known to be linked to food consumption **AND** 1. Isolation of a microbial toxin, and/or pathogenic organism in vomitus, feces, or a suspected food item **OR** 2. An epi link to 2+ lab-confirmed cases of food poisoning	Confirmed: Clinically compatible signs and symptoms, known to be linked to food consumption **AND** Identification of a pathogenic organism, toxin or other agent in vomitus, stool, or a suspected food item Probable: Clinically compatible signs and symptoms, known to be linked to food consumption **AND** An epi 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 Suspect: An incident in which 2+ persons experience a similar illness after ingestion of a common food **AND** Epi analysis implicates the food as the source of the illness	Confirmed: Clinically compatible signs and symptoms, linked to food consumption **AND** Identification of a pathogenic organism that is not individually reportable, toxin or other agent in stool, or a suspected food item Probable: 2009 case definition Suspect: An incident in which **one of two or more** persons, **who are neither confirmed nor probable cases**, experience similar **clinical** illness after ingestion of a common food item **AND** epi analysis implicates the food as the source of their illness

Gastroenteritis, institutional outbreaks

First reportable in 1991 under HPPA R.S.O. 1990

1996	2009	2015
Confirmed Outbreak: Clinical signs and symptoms compatible with and epi linked to 2 or more cases with similar signs and symptoms. (Example: Norwalk-like virus outbreaks)	Confirmed Outbreak: 1. Three or more cases* with signs and symptoms compatible with infectious gastroenteritis in a specific unit or floor within a 4-day period **OR** 2. Three or more units/floors having a case of infectious gastroenteritis within 48 hours * To be defined as a case within a gastroenteritis outbreak, at least one of the following must be met: a. 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** b. 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**	Confirmed Outbreak: 2009 case definition Suspected Outbreak: Two suspected cases* of infectious gastroenteritis in a specific area, such as a home, unit, or floor within 48 hours * To be defined as a suspected case within a suspected gastroenteritis outbreak, only 1 episode of either vomiting or diarrhea and with or without other signs and symptoms associated with gastrointestinal illness. A suspected case becomes a case when 1+ of the criteria under the definition of a case within a gastroenteritis outbreak is met.

1996	2009	2015
	c. Laboratory confirmation of a known gastrointestinal pathogen and at least one symptom compatible with gastrointestinal infection – nausea, vomiting, diarrhea, abdominal pain or tenderness	

Giardiasis

First reportable in 1991 under HPPA R.S.O. 1990

1996	2009	2014	2015
Confirmed cases only: Clinically compatible signs and symptoms **AND** 1. Demonstration of trophozoites or cysts in stool or small bowel specimen **OR** 2. An epi link to two or more lab confirmed cases	Confirmed: Clinically compatible signs and symptoms **AND** 1. Demonstration of *Giardia lamblia* cysts or trophozoites **OR** 2. Demonstration of *G. lamblia* antigen by an approved method (enzyme immunoassay [EIA], immunochromatographic test [ICT]) Probable: Symptomatic **AND** a person with an epi link to a lab confirmed case	Confirmed: 2009 case definition, except "Laboratory confirmation of infection, **with or without** clinically compatible signs and symptoms, from an appropriate clinical specimen (e.g., stool, duodenal fluid, small bowel biopsy) Probable: 2009 case definition	Confirmed: 2014 case definition, except "**with** clinically compatible signs and symptoms**"** 1. 2014 case definition (#1 **OR** 2. 2014 case definition (#2) Probable: 2014 case definition

Gonorrhoea

First reportable in 1991 under HPPA R.S.O. 1990

1996	2009	2014
Confirmed cases only: 1. Gram negative diplococcic on a smear of urethral discharge (male only) **OR** 2. A positive culture for *Neisseria gonorrhoeae* from urogenital, rectal or throat swabs or from tissue biopsy or sterile body fluids **OR** 3. Detection of *N. gonorrhoeae* by antigen detection methods **OR** 4. Clinical signs and symptoms compatible with a diagnosis of gonorrhoea, and who can be epi-linked to a lab-confirmed case	Confirmed cases only: *Neisseria gonorrhoeae* detected in an appropriate clinical specimen (e.g., urogenital, rectal or throat [pharyngeal] swab)	Confirmed: 2009 case definition, except "throat [pharyngeal] swab" changed to "pharyngeal swab" Probable: Clinically compatible signs and symptoms **AND** epi-link to a lab-confirmed case

Group A Streptococcal disease, invasive (iGAS)

First reportable in 1995 through an amendment to O. Reg 559/91 under HPPA R.S.O. 1990

1996	2009	2013	2014
Confirmed cases only: 1. Isolation of Group A streptococcus from a normally sterile site with or without clinical severity **OR** 2. Isolation of Group A streptococcus from a non-sterile site **AND** clinical severity	Confirmed: 1996 case definition Probable: Clinical severity **AND** an epi-link to a lab-confirmed case of Group A Streptococcal disease	Confirmed: 1996 case definition **OR** DNA detection by NAAT from a normally sterile site, with or without clinical severity Probable: 2009 case definition	Confirmed cases only: 2013 case definition *Probable case definition removed*

Group B Streptococcal disease, neonatal

First reportable in 1995 through an amendment to O. Reg 559/91 under HPPA R.S.O. 1990

1996	2009	2014
Confirmed: Clinically compatible signs and symptoms of invasive disease in a neonate aged ≤28 days **AND** 1. Isolation of Group B streptococcus (*Streptococcus agalactiae*) from a normally sterile site **OR** 2. Detection of Group B streptococci in CSF by antigen detection	Confirmed: 1996 case definition	Confirmed: Clinically compatible signs and symptoms of invasive disease in a neonate aged ≤28 days **AND** laboratory confirmation of Group B *Streptococcus* from a normally sterile site
Suspect: Clinical signs and symptoms **AND** diagnosis of invasive Group B streptococcal disease in a neonate whose mother has lab confirmation of Group B streptococci from a lower vaginal or anorectal specimen *Note: Suspect cases included to ensure completeness of reporting in cases where an infant is treated early with antibiotics before all appropriate specimens have been taken.*	Probable: 1996 suspect case definition	Probable: 2009 case definition

Haemophilus influenza b disease, invasive

First reportable in 1991 under HPPA R.S.O. 1990

1996	2009	2014
Confirmed cases only: **Meningitis** Clinically compatible signs and symptoms of meningitis **AND** 1. Isolation of *Haemophilus influenzae* type b **OR** 2. Detection of antigen from CSF **Epiglottis** Clinically compatible signs and symptoms of epiglottis **AND** 1. Isolation of *Haemophilus influenzae* type b from the epiglottis or a normally sterile site **OR** 2. Detection of antigen in urine **Other Invasive Disease** Clinically compatible signs and symptoms of invasive disease **AND** Isolation of *Haemophilus influenza* type b from a normally sterile site	Confirmed: Clinically compatible signs and symptoms of invasive disease with lab confirmation of infection (organism detected) **AND** 1. Isolation of *H. influenzae* serotype b from a normally sterile site (e.g., CSF) **OR** 2. Isolation of *H. influenzae* serotype b from epiglottis in a person with epiglottis Probable: Invasive disease with lab confirmation of infection (antigen detected) **AND** 1. Demonstration of *H. influenzae* serotype b antigen in CSF **OR** 2. Detection of *H. influenzae* DNA by NAT in a normally sterile site **OR** Buccal cellulitis or epiglottis in a child < 5 years of age with no other causative organisms isolated	Confirmed: 2009 case definition, except (#1 and 2) "serotype b" changed to "type b*" with * Note: only *H. influenza* caused by serotype b is reportable; other types of *H. influenza* (non-encapsulated or type a, c, d, e or f are not reportable). Probable: 2009 case definition, **except:** (#1) "*H inflenzae* serotype b" changed to "*H. influenzae* type b (Hib)" (#2) *"by NAT" omitted*

Hantavirus Pulmonary Syndrome

First reportable in 2001 through an amendment to O. Reg 559/91 under HPPA R.S.O. 1990

2001	2009	2014
Confirmed cases only: Clinically compatible symptoms **AND** 1. Detection of hantavirus-specific IgM or ≥4-fold increase in hantavirus-specific IgG antibody titres **OR** 2. Detection of hantavirus-specific RNA sequence by PCR in an appropriate clinical specimen **OR** 3. Detection of hantavirus antigen by immunohistochemistry	Confirmed cases only: 2001 case definition, slight change: 1. Detection **of IgM antibodies or a significant (i.e. ≥4-fold) rise** in hantavirus-specific IgG antibody titres **OR** 2. 2001 case definition (#2) **OR** 3. 2001 case definition (#3)	Confirmed cases only: 1. 2009 case definition (#1) **OR** 2. Detection of hantavirus-specific NAAT in an appropriate clinical specimen **OR** 3. 2009 case definition (#3)

Hemorrhagic fevers (Ebola virus, Marburg virus, other viral causes)

First reportable in 1991 under HPPA R.S.O. 1990

1996	2009	2014
Confirmed cases only: Clinically compatible signs and symptoms **AND** 1. Positive IgM antibody tests **OR** 2. Detection or isolation of virus **OR** 3. A ≥4-fold in antibody titre from paired sera	Confirmed: Clinically compatible signs and symptoms **AND** Detection of virus-specific nucleic acid by RT-PCR from an appropriate clinical specimen (e.g., blood, urine, throat washings, tissue) **AND** Confirm with one of the following: 1. Demonstration of virus antigen in tissue (skin, liver, spleen) by immunohistochemical or immunofluorescent techniques **OR** 2. Demonstration of specific IgM antibody by ELISA, EIA, immunofluorescent assay, or Western Blot **OR** 4. 3.Demonstration of ≥4-fold rise in IgG serum antibody by EIA, imunofluorescent assay, or Western Blot **OR** 5. RT-PCR on an independent target gene and/or independent sample or confirmation through another reference laboratory **OR** 6. Isolation of virus from an appropriate clinical specimen (blood, tissue, urine specimens, throat secretions)	Confirmed Clinically compatible signs and symptoms **AND** 2+ of hemorrhagic manifestations **AND** Lab confirmation: Detection of virus-specific RNA by RT PCR from an appropriate clinical specimen **AND** Demonstration of virus antigen in appropriate clinical specimen **OR** One of the above lab criteria + lab confirmation using 1+ of the 2009 case definition (#1-4) **OR** 2009 case definition (#5)

1996	2009	2014
	Probable: Clinically compatible signs and symptoms **AND** a history within the 3 weeks before onset of fever of the following: 1. Travel in a specific areas of a country where an outbreak of viral hemorrhagic fever (VHF) has occurred recently **OR** 2. An epi-link with a confirmed or probable case **OR** 3. Direct contact with blood or other body fluids from a confirmed or probable case **OR** 4. Works in lab that handles VHF virus specimens or in a facility that handles animals with VHF **OR** 5. A NAAT positive without lab confirmation by another approved or validated test	Probable 2009 case definition, **AND** >2 of hemorrhagic manifestations
	Suspect: Clinically compatible signs and symptoms in the absence of an epi-link to a lab-confirmed case or probable case	*Suspect case definition eliminated*

Hepatitis A

First reportable in 1991 under HPPA R.S.O. 1990

1996	2009	2014
Confirmed cases only: Clinically compatible signs and symptoms **AND** 1. Demonstration of IgM anti-HAV **OR** An epi link to one or more laboratory confirmed cases of Hepatitis A **OR** 2. An asymptomatic individual with anti-HAV IgM	Confirmed: Lab confirmation of infection, in the absence of recent vaccination **AND** Detection of IgM antibody to anti-HAV **AND** 1. Acute illness with discrete onset of symptoms and jaundice or elevated serum aminotransferase levels **OR** 2. An epi link to lab-confirmed case Probable: Acute illness in a person with an epi link to a lab-confirmed case	Confirmed: Laboratory confirmation of infection, in the absence of recent hepatitis A vaccination, with detection of anti-HAV IgM **AND** 1. 2009 case definition, (AST, ALT) **OR** 2. 2009 case definition Probable: 2009 case definition

Hepatitis B

First reportable in 1991 under HPPA R.S.O. 1990

1996	2009	2012	2014
Confirmed cases only: **Symptomatic**: 1. Detection of positive anti-HBc IgM **OR** 2. Conversion from anti-HBc negative to anti-HBc positive between acute and convalescent serum samples **OR** 3. Conversion from HBsAg positive to anti-HBsAg between acute and convalescent serum samples **OR** 4. Positive HBsAg and negative IgM anti-HAV **Asymptomatic**: Conversion to anti-HBs within 6 months of HBsAg	Confirmed: Acute case (symptoms) **AND** 1. Detection of HBsAg and IgM antibody to anti-HBc **OR** 2. Loss of HBsAg over 6 months in the context of a compatible clinical history or probable exposure Probable: Acute case (symptoms) **AND** 1. An epi-link to a lab-confirmed case **OR** 2. Detection of HBsAg (and HAV and HCV negative) when the test for IgM antibody to anti-HBc is not available	Confirmed: 2009 case definition Probable: 2009 case definition Chronic (Carrier): 1. Detection of HBsAg with a negative IgM anti-HBc **OR** 2. Presence of HBsAg for > 6 months **OR** 3. Presence of HBV DNA for > 6 months	Confirmed: 2009 case definition Probable: 2009 case definition Chronic (Carrier): 2012 case definition, **except:** (#1) Detection of HBsAg with a negative IgM anti-HBc **in the context of a compatible clinical history** (#2) **Persistence of detectable** HBsAg for >6 months **OR** (#3) **Persistence of detectable** HBV DNA for > 6 months

Hepatitis C

First reportable in 1991 under HPPA R.S.O. 1990

1996	2009
Confirmed cases only: Symptomatic or asymptomatic **AND** 1. Detection of anti-HCV **OR** 2. Conversion from anti-HCV negative to anti-HCV positive between acute and convalescent serum samples	Confirmed cases only: 1996 case definition (#1, if >18 months age) **OR** Detection of Hepatitis C virus RNA

Hepatitis D

First reportable in 1991 under HPPA R.S.O. 1990

1996	2009	2013
Confirmed cases only: Clinically compatible signs and symptoms **AND** 1. Acute or chronic Hepatitis B **AND** 2. Detection of total anti-HDV	Confirmed cases only: 1. 1996 case definition (#1) **AND** 2. Detection of total antibody (IgM and IgG) to the anti-HDV	**Not reportable as of December 4, 2013**

Herpes, neonatal

First reportable in 1991 under HPPA R.S.O. 1990

1996	2009	2013
Confirmed cases only: 1. Clinically compatible signs and symptoms **AND** 2. Isolation of herpes simplex virus from any site in any infant <1 month of age	Confirmed cases only: 1996 case definition, **except**: (#2) **Detection** of herpes simplex virus (HSV) in an infant **(most commonly occurs in infants less than or equal to 28 days in age)**	**Not reportable as of December 4, 2013**

Influenza

First reportable in 1991 under HPPA R.S.O. 1990

1996	2004	2005	2009	2012	2014
Confirmed cases only: Clinically compatible signs and symptoms **AND** 1. Lab confirmation by detection or isolation of influenza virus in pharyngeal or nasal secretions **OR** 2. ≥4-fold increase in hemagglutination antibody titres to influenza between acute and convalescent sera	Confirmed cases only: 1996 case definition, except (#1) slight change: Lab confirmation by detection or isolation of influenza in pharyngeal, nasal secretions **or lung tissue**	Confirmed cases only: 2004 case definition **OR** 3. An epi-link to a lab-confirmed case	Confirmed: 2005 case definition **OR** 4. Detection of influenza-specific RNA Suspect: Clinically compatible signs and symptoms without epi-link to a lab-confirmed case	Confirmed cases only: 2005 case definition, except (#3) applies to institutional outbreaks only *Suspect case definition removed*	Confirmed cases only: 2012 case definition, except (#1) slight change: Lab confirmation by detection or isolation of influenza virus **from appropriate clinical specimen(s) (e.g., nasopharyngeal/ throat swabs)**

Lassa Fever

First reportable in 1991 under HPPA R.S.O. 1990

2005	2009	2014
Confirmed cases only: Clinically compatible signs and symptoms **AND** 1. Positive IgM antibody tests **OR** 2. Detection or isolation of the virus **OR** 3. A ≥4-fold rise in antibody titre from paired sera	Confirmed: Clinically compatible signs and symptoms **AND** Detection of virus-specific nucleic acid by RT-PCR from an appropriate clinical specimen (e.g., blood, urine, throat washings, tissue) **AND** 1. Demonstration of virus antigen in tissue (skin, liver, or spleen) by immunohistochemical or immunofluorescent techniques **OR** 2. 2005 case definition (#1), by ELISA, EIA, immunofluorescent assay, or Western Blot **OR** 3. 1996 case definition (#3), by EIA, immunofluorescent assay, or Western Blot **OR** 4. RT-PCR on an independent target gene and/or independent sample or confirmation through another reference laboratory	Confirmed: Clinically compatible signs and symptoms **AND** Detection of virus-specific **RNA** by RT-PCR from an appropriate clinical specimen (e.g., blood, serum, tissue, urine or throat washings) **AND** Demonstration of virus antigen in an appropriate clinical specimen by enzyme immunoassay (EIA) **OR** one of the above plus lab confirmation using 1+ of the following: 1. 2009 case definition (#1) **OR** 2. 2009 case definition (#2) **OR** 3. 2009 case definition (#3), slight change: Demonstration of a ≥4-fold rise in **IgG serum antibody** by EIA, immunofluorescent assay or Western blot **OR** 4. 2009 case definition (#4) **OR** 5. 2009 case definition (#5), "*Detection or" omitted*

2005	2009	2014
	OR 5. 2005 case definition (#2), from an appropriate clinical specimen (e.g., blood, tissue, urine specimens, throat secretions) <u>Probable:</u> Clinically compatible signs and symptoms **AND** 1. History within the 3 weeks before onset of fever of one of the following **:** a. Travel in a specific area of a country where an outbreak of lassa fever has recently occurred **OR** b. An epi-link with a confirmed or probable case **OR** c. Direct contact with blood or other body fluids from a confirmed or probable case of lassa fever **OR** d. Works in a lab that handles lassa fever virus specimens or in a facility that handles animals with lassa fever **OR** 2. A NAT-positive without lab confirmation	<u>Probable:</u> 2009 case definition, except “NAT” changed to “NAAT”

2005	2009	2014
	by another approved or validated test Suspect: Clinically compatible signs and symptoms in the absence of an epi-link to a lab-confirmed case or a probable case	*Suspect cases eliminated*

Legionellosis

First reportable in 1991 under HPPA R.S.O. 1990

1996	2009	2011	2012
Confirmed cases only: Clinically compatible signs and symptoms **AND** 1. Isolation of *Legionella pneumophila* organism or antigen detection from a site which is normally sterile **OR** 2. ≥4-fold in antibody titre to 1:128 against *L. pneomophila* **OR** 3. Static or single antibody titre of 1:256	Confirmed: 1. 1996 case definition (#1) with *Legionella* spp.—more broad) **OR** 2. 1996 case definition (#3) with *Legionella* spp.—more broad) **OR** 3. A significant ≥4-fold rise in *Legionella* spp. total antibody titre between acute and convalescent sera **OR** 4. Demonstration of *L. pneumophila* serogroup 1 antigen in urine Probable: Clinically compatible signs and symptoms **AND** Demonstration of *Legionella* spp. DNA by NAT, such as PCR	Confirmed: 2009 case definition Probable: 2009 case definition **OR** 2. Detection of *Legionella* antigen or staining of the organism in respiratory secretions, lung tissue, or pleural fluid by DFA staining, IHC, or other similar method	Confirmed: 2011 case definition, except (#1) “from appropriate clinical specimens (e.g., lung tissue, pleural fluid, sputum)” (#3) “static” changed to “single specimen” Probable: 2011 case definition

Listeriosis

First reportable in 1991 under HPPA R.S.O. 1990

1996	2009	2015
Confirmed cases only: Clinically compatible signs and symptoms **AND** 1. Isolation of *Listeria monocytogenes* from a normally sterile site, including fetal gastrointestinal contents	Confirmed: 1996 case definition, (**e.g., blood, CSF, joint, pleural or pericardial fluid**) Probable: Clinically compatible signs and symptoms **AND** 1. An epi link to a lab-confirmed case **OR** 2. An epi link to a confirmed source (contam. Milk, soft cheese, ready-to-eat meats)	Confirmed: 1996 case definition, but: 1. 2009 case definition (#1) **OR** 2. Isolation of *L. monocytogenes* from miscarried or stillbirth placental or fetal tissue Probable: 2009 case definition

Lyme disease

First reportable in 1991 under HPPA R.S.O. 1990

1996	2009	2015
Confirmed: **Endemic:** 1. Isolation of *Borrelia burgdorferi* from a clinical specimen **OR** 2. Erythema migrans observed by a physician **OR** 3. At least one clinically compatible late manifestation (neurologic, cardiac or musculoskeletal) **AND** laboratory evidence of *B. burgdorferi* infection **Non-endemic:** 1. Erythema migrans observed by a physician **AND** lab evidence of *B. burgdorefi* infection	Confirmed: 1. (Erythma migrans or objective symptoms of disseminated Lyme disease) **AND** lab confirmation by PCR or culture **OR** 2. (Erythma migrans or objective symptoms of disseminated Lyme disease) **AND** lab support by serological methods **AND** history of residence in, or visit to, an endemic area	Confirmed: 1. Clinician-confirmed erythema migrans (EM) >5 cm in diameter with a history of residence in, or visit to, a Lyme disease endemic area or risk area **OR** 2. Clinical evidence of Lyme disease **AND** lab confirmation by PCR or culture **OR** 3. 2009 case definition (#2), except "(Erythma migrans or objective symptoms of disseminated Lyme disease)" changed to **"Clinical evidence of Lyme disease"**

1996	2009	2015
Probable: **Endemic:** 1. Physician recognition of erythema migrans as reported by patient **Non-endemic:** 1. At least one clinical compatible late manifestation (neurologic, cardiac, or musculoskeletal) **AND** lab evidence for *B. burgdorferi* infecton	Probable: 1. (Erythma migrans or objective symptoms of disseminated Lyme disease) **AND** lab support by serological methods **but** with no history of residence in, or visit to, an endemic area **OR** 2. Erythma migrans **AND** history or residence in, or visit to, an endemic area **but** no lab confirmation	Probable: 1. 2009 case definition (#1), except "(Erythma migrans or objective symptoms of disseminated Lyme disease)" changed to **"Clinical evidence of Lyme disease"** **OR** 2. Clinician-confirmed EM >5cm in diameter **but** no history of residence in, or visit to an endemic area or risk area

Malaria

First reportable in 1991 under HPPA R.S.O. 1990

1996	2009	2014
Confirmed cases only: Clinically compatible signs and symptoms **AND** Presence of malaria parasites on peripheral blood smears	Confirmed: 1996 case definition, but symptomatic or asymptomatic	Confirmed: 2009 case definition, but "malaria parasites" changed to "*Plasmodium* sp." in blood smear/film (thick and thin)
	Probable: Symptomatic or asymptomatic **AND** Detection of *Plasmodium* sp. antigen in an appropriate clinical specimen (e.g., blood)	Probable: 2009 case definition **OR** Detection of amplified Plasmodium DNA by NAAT

Measles

First reportable in 1991 under HPPA R.S.O. 1990

1996	2005	2009	2013	2014
Confirmed cases only: A. Clinically compatible signs and symptoms **AND** 1. 4-fold rise in blood or saliva antibody titre **OR** 2. Presence of measles-specific IgM **OR** 3. An epi-link with a lab-confirmed case **OR** 4. Detection of measles virus from appropriate specimens **OR** B. Clinically compatible signs and symptoms **AND** 1. Fever >38.3°C (101°F) **AND** 2. Cough, coryza or conjunctivitis **AND** 3. Generalized maculopapular rash for at least 3 days	Confirmed cases only: A. Clinically compatible signs and symptoms **AND** 1. 1996 case definition (#2), present 3-4 days after onset of rash **OR** 2. Significant rise in antibody concentrations between acute and convalescent sera **OR** 3. 1996 case definition (#4), from blood or NP swab collected before day four of rash onset or from urine specimen taken within 7 days of rash onset **OR** 4. 1996 case definition (#3) **OR** 1996 case definition, Part B	Confirmed cases only: Clinically compatible signs and symptoms in absence of recent immunization with measles-containing vaccine **AND** 1. 1996 case definition (#4) **OR** 2. Detection of measles RNA from an appropriate clinical specimen **OR** 3. 2005 case definition (#2), for IgG titre **OR** 4. 1996 case definition (#2), in a person who is either epi-linked to a lab-confirmed case or has recently travelled to an area of known measles activity **OR** 5. 1996 case definition (#3) *Part B eliminated*	Confirmed: Clinically compatible signs and symptoms in absence of immunization with measles-containing vaccine in the last 7-42 days **AND** 1. 2005 case definition (#3) **OR** 2. 2009 case definition (#2) **OR** 3. 2009 case definition (#3) 4. 2009 case definition (#4) **OR** 5. 2009 case definition (#5), **OR** Travel during the 21 days prior to onset of rash to a measles endemic area or where an outbreak of measles is occurring or belonging to a defined risk group during an outbreak	Confirmed: Clinical evidence of invasive disease **AND** 1. 2013 case definition (#1), slight change: **Isolation of** measles virus from **an appropriate clinical specimen (e.g., nasopharyngeal swab/aspirate/wash and urine) OR** 2. 2013 case definition (#2) **OR** 3. 2013 case definition (#3), slight change: **Seroconversion or** a significant **(i.e. ≥4-fold or greater)** rise in measles IgG titre **by any standard serologic assay** between acute and convalescent sera **OR** 4. Positive serologic test for measles IgM antibody using a

1996	2005	2009	2013	2014
				recommended assay in a person who is either epi-linked to a lab-confirmed case **OR** has recently travelled to an area of known measles activity **OR** Clinically compatible signs and symptoms in a person **AND** known epi-link to a lab-confirmed case of measles
		Probable: Clinically compatible signs and symptoms **AND** 1. Absence of appropriate lab tests or epi-link to lab-confirmed case **OR** 2. Recent travel to an area of known measles activity	Probable: 2009 case definition	Probable: Clinical evidence of infection in the absence of immunization with measles-containing vaccine in the last 5-42 days **AND** 1. A positive serologic test for measles IgM antibody using a recommended assay **OR** 2. 2009 case definition (#2)

Meningococcal disease, invasive

First reportable in 1991 under HPPA R.S.O. 1990

1996	2005	2009	2014
Confirmed cases only: 1. Isolation of *Neisseria meningitidis* from a normally sterile site **OR** 2. Signs and symptoms of meningococcemia (purpura fulminans) without culture confirmation **OR** 3. Signs and symptoms of meningitis **AND** a. Antigen detection from CSF or serum, usually by latex agglutination **OR** a. Gram negative diplococci in CSF, blood, or skin lesions	Confirmed cases only: 1996 case definition, **except**: 1. Signs and symptoms of meningitis **AND** a. antigen detection from CSF or serum, usually by latex agglutination **OR** b. Gram negative diplococci in CSF, blood, or skin lesions **OR** c. Detection of *N. meningitidis* from serogroup-specific PCR *(new)*	Confirmed: 1996 case definition (#1) **OR** 1. Detection of *N. meningitidis* DNA by a validated NAT from a normally sterile site Probable: 1996 case definition (#2) **AND** demonstration of *N. meningitidis* antigen in the CSFF	Confirmed: Clinical evidence of invasive disease: 1. 1996 case definition (#1) **(e.g. blood, cerebrospinal fluid [CSF], joint, pleural, or pericardial fluid)** **OR** 2. 2009 case definition (#2), but "NAT" changed to "NAAT" Probable: Clinical evidence of invasive disease with purpura fulminans or petechiae with no other apparent cause **AND** with non-confirmatory laboratory evidence **AND** Detection of *N. meningitidis* antigen in the CSF

Mumps

First reportable in 1991 under HPPA R.S.O. 1990

1996	2005	2009	2014
Confirmed cases only: A. Clinically compatible signs and symptoms **AND** 1. Isolation of virus from appropriate specimens **OR** 2. Demonstration of ≥4-fold increase in antibody titre **OR** 3. An epi-link with another confirmed case **OR** B. Clinically compatible signs and symptoms **AND** 1. Fever **AND** 2. Tender self-limited swelling of the salivary glands lasting two or more days **AND**	Confirmed cases only: A. 1996 case definition, except: (#2) Demonstration of ≥4-fold increase or serconversion in serum mumps IgG antibody titre **OR** 4. Positive mumps-specific IgM antibodies **OR** B. 1996 case definition	Confirmed: Clinically compatible signs and symptoms in absence of recent immunization with mumps-containing vaccine **AND** 1. 1996 case definition (#1) **OR** 2. Detection of mumps virus RNA by a validated NAT from an appropriate clinical specimen (e.g., buccal swab and urine sample; buccal swab preferred) **OR** 3. 2005 case definition (#2) **OR** 4. 2005 case definition (#4) in a person who is either epi-linked to a lab-confirmed case or has recently travelled to an area **OR** 5. 1996 case definition (#3)	Confirmed: 2009 case definition, in the last seven to 42 days **AND** 1. 1996 case definition (#1) (e.g. buccal swab, throat swab and urine culture) **OR** 2. 2009 case definition (#2) *"by a validated NAT" omitted* **OR** 3. 2005 case definition (#2), by any standard serologic assay between acute and convalescent sera **OR** 4. 2009 case definition (#4) **OR** 5. 1996 case definition (#3)

1996	2005	2009	2014
3. No other apparent cause		Probable: 1. Clinically compatible signs and symptoms in the absence of an epi-link to a lab-confirmed case **OR** 2. Clinically compatible signs and symptoms in a person with recent travel to an area of known mumps	Probable: 2009 case definition (#1), and in the absence of appropriate lab tests

Opthalmia neonatorum

First reportable in 1991 under HPPA R.S.O. 1990

1996	2009
Confirmed cases only: An infant <1 month of age **AND** signs of conjunctivitis **AND** 1. Detection by culture or direct antigen of *N. gonorrhoeae* from conjuctival exudate or pseudomembrane or by stained smear of conjuctival exudate showing typical gram negative intracellular diplococcic **OR** 2. Detection of *C. trachomatis* from conjuctival exudate or pseudomembrane	Confirmed: 1996 case definition, but signs of conjunctivitis not necessary Probable: Lab confirmation of *Neisseria gonorrhoeae* or *Chlamydia trachomatis* in maternal specimen **AND/OR** Clinically compatible signs and symptoms in an infant <1 month of age

Paralytic shellfish poisoning

First reportable in 2013 through an amendment to O. Reg 559/91 under HPPA R.S.O. 1990

2013
Confirmed:
Clinically compatible signs and symptoms **AND** 1. Detection of Paralytic Shellfish Poison in ingested shellfish or other seafood (e.g. whole scallops, crabs and lobsters) **OR** 2. Detection of high levels of dinoflagellates associated with shellfish poisoning in water from which epidemiologically related shellfish were gathered **OR** 3. Detection of PSP toxins in urine sample
Probable:
Clinically compatible signs and symptoms with onset within 12 hours following consumption of a potential source of Paralytic Shellfish Toxins (e.g., shellfish or other seafood, such as whole scallops, crabs and lobster)

Paratyphoid fever

First reportable in 1991 under HPPA R.S.O. 1990

1996	2009	2013	2014
Confirmed cases only: Clinically compatible signs and symptoms **AND** 1. Isolation of *Salmonella paratyphi A, B, C* from any appropriate specimen **OR** 2. Isolation of S. paratyphi from an asymptomatic individual	Confirmed: 1996 case definition Probable: Clinically compatible signs and symptoms **AND** An epi link to a lab-confirmed case	**No change** * Note: Salmonella Paratyphi B variant java now entered as Salmonellosis, not Paratyphoid Fever	Confirmed: Symptomatic or asymptomatic **AND** 1. 1996 case definition, excluding *S.* Paratyphi B variant Java); specimens specified (e.g., sterile site, blood, stool, urine) Probable: 2009 case definition **OR** Positive NAAT for *Salmonella* Paratyphi without culture confirmation

Pertussis

First reportable in 1991 under HPPA R.S.O. 1990

1996	2005	2009	2014
Confirmed cases only: 1. Lab-confirmation of *Bordetella pertussis* in nasopharyngeal swabs **OR** 2. A clinical case with an epi-link to a lab-confirmed case **OR** 3. Cough lasting two or more weeks, for which there is no other known cause, and one of the following: paroxysmal cough, cough ending in apnea or vomiting or inspiratory 'whoop'	Confirmed cases only: 1. 1996 case definition (#1), by culture and/or PCR testing **OR** 2. 1996 case definition (#2) **OR** 3. 1996 case definition (#3) **OR** 4. Detection of specific antigens from acute and convalescent sera	Confirmed: Clinically compatible signs and symptoms **AND** 1. 1996 case definition (#1) **OR** 2. Detection of DNA by NAT from an appropriate clinical specimen (e.g., nasopharyngeal swabs) **OR** 3. 1996 case definition (#2)	Confirmed: 1. 1996 case definition (#1), from an appropriate specimen **OR** 2. 2009 case definition (#2), "NAT" changed to "NAAT" **AND** 1+ of the following: a. cough lasting 2 weeks b. paroxysmal cough of any duration c. cough with inspiratory "whoop" d. cough ending in vomiting or gagging, or associated with apnea **OR** 3. Epi-link to lab-confirmed case **AND** 1+ of the following for which there is no other known cause: a. paroxysmal cough of any duration b. cough with inspiratory

1996	2005	2009	2014
			"whoop" c. cough ending in vomiting or gagging, or associated with apnea
		Probable: 1996 case definition (#3), in the absence of appropriate lab tests and epi-links	Probable: 2009 case definition

Plague

First reportable in 1991 under HPPA R.S.O. 1990

1996	2009	2014
Confirmed cases only: Clinically compatible signs and symptoms **AND** 1. Isolation or detection of *Yersinia pestis* from an appropriate clinical specimen **OR** 2. A ≥4-fold rise in serum antibody to *Y. pestis* **OR** 3. A single high antibody titre ≥1/256 to *Y. pestis* in the absence of immunization **OR** 4. Demonstration of *Y. pestis* antigen in appropriate clinical specimens	Confirmed: 1. 1996 case definition (#1) **OR** 2. 1996 case definition (#2) by EIA or passive haemagglutination/inhibition titre Probable: Clinically compatible signs and symptoms **AND** 1. Demonstration of elevated serum antibody titres to *Y. pestis* F1 antigen (without ≥4-fold rise) in a patient with no history of plague immunization **OR** 2. 1996 case definition (#4) by immunofluorescence **OR** 3. Detection of *Y. pestis* nucleic acid **OR** 4. >1:10 passive haemagglutination/inhibition titre in a single serum sample in a patient with no history of vaccination or previous infection **OR** 5. Detection of *Y. pestis* antibody by EIA *1996 case definition (#3) eliminated*	Confirmed: 1. 2009 case definition (#1) 2. 2009 case definition (#2), slight change: A ≥4-fold rise in serum antibody titre to *Y.pestis* **fraction 1 (F1) antigen by EIA or passive haemagglutination/inhibition titre** Probable: 2009 case definition

Pneumococcal disease, invasive

First reportable in 2001 through an amendment to O. Reg 559/91 under HPPA R.S.O. 1990

2005	2009	2014
Confirmed cases only: Clinically compatible signs and symptoms **AND** 1. Isolation of *Streptococcus pneumoniae* from blood or CSF **OR** 2. Demonstration of *S. pneumoniae* antigen in CSF **OR** 3. An epi-link to a lab-confirmed case	Confirmed: Laboratory confirmation of infection (organism detected) with invasive disease **AND** 1. 2005 case definition (#1) **OR** 2. Detection of *S. pneumoniae* DNA by NAT from a normally sterile site (blood, CSF) Probable: Invasive disease and no other apparent cause **AND** 1. 2005 case definition (#2)	Confirmed: Clinical evidence of invasive disease with laboratory confirmation of infection: 1. 2005 case definition (#1) **OR** 2. 2009 case definition (#2) Probable:* Clinical evidence of invasive disease and no other apparent cause with non-confirmatory laboratory evidence: demonstration of S. pneumoniae antigen from a normally sterile site (e.g., blood, CSF), excluding the middle ear. *Probable case definitions are provided as guidelines to assist with case finding and health management, and are not for provincial notification purposes

Poliomyelitis, acute

First reportable in 1991 under HPPA R.S.O. 1990

1996	2009	2014
Confirmed cases only: Clinically compatible signs and symptoms including 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, no other apparent cause **AND** 1. Isolation of vaccine or wild poliovirus from a clinical specimen (e.g., stool, CSF) **OR** 2. A 4-fold rise in antibody titre to poliovirus	Confirmed: Clinically compatible signs and symptoms of paralytic polio **AND** with travel to a polio endemic region **AND** 1. 1996 case definition (#1) **OR** 2. Detection of polio virus RNA by NAT **OR** 3. Clinically compatible signs and symptoms in a person with an epi-link to a lab-confirmed case Probable: Clinically compatible signs and symptoms without detection of polio virus from an appropriate specimen (e.g., stool, pharyngeal swabs, CSF) and without evidence of infection with other neurotropic viruses **AND** with travel to a polio endemic region	Confirmed: **Paralytic** Clinical illness with lab confirmation: 1. 1996 case definition (#1) **OR** 2. 2009 case definition (#2), "NAT" changed to "NAAT" **OR** 3. 2009 case definition (#3) **Non-paralytic** Any person **without symptoms of paralytic poliomyelitis,** with lab confirmation: 1.1996 case definition (#1), vaccine* **OR** 2. 2009 case definition (#2), "NAT" changed to "NAAT" *except where there has been vaccination with oral polio virus (OPV) in the 30 days prior to the date of specimen collection *Probable case definition eliminated*

Psittacosis/Ornithosis

First reportable in 1991 under HPPA R.S.O. 1990

1996	2009	2014
Confirmed cases only: Clinically compatible signs and symptoms **AND** 1. A ≥4-fold antibody rise against *Chlamydia psittaci* **OR** 2. Isolation of infectious agent from a clinical specimen **OR** 3. A single CF titre ≥ 1/32	Confirmed: Same as 1996 case definition: 1. 1996 case definition (#1) 2. 1996 case definition (#2) Probable: Clinically compatible signs and symptoms **AND** 1. Epi-link to a known source (human, animal, environment) **OR** 2. 1996 case definition (#2) **OR** 3. Positive for NAT for *C. psittaci* specific targets	Confirmed: Clinically compatible signs and symptoms **AND** **AND** 1. 2009 case definition (#1), but "*Chlamydia psittaci*" changed to "*Chlamydophila psittaci*" **OR** 2. 2009 case definition (#2) **OR** 3. 2009 case definition (#3) from Probable cases, but "NAT" changed to "NAAT" Probable: Clinically compatible signs and symptoms **AND** 1. 2009 case definition (#1) **OR** 2. Supportive serology (e.g., *C. psittaci* titre of ≥ 32) with one or more serum specimens obtained after onset of symptoms

Q-fever

First reportable in 1991 under HPPA R.S.O. 1990

1996	2009	2014
Confirmed cases only: Clinically compatible signs and symptoms **AND** 1. A ≥4-fold rise in specific antibodies to *Coxiella burnetii* **OR** 2. Isolation of *C. burnetti* from blood **OR** 3. 3. A single CF titre ≥ 1/128	Confirmed: Same as 1996 case definition (#1 and 2) Probable: Clinically compatible signs and symptoms **AND** 1. An epi-link to a lab-confirmed case **OR** 2. A single CF titre >1:32 **OR** 3. Asymptomatic individual with positive lab evidence **AND** epi-link to confirmed source (human, animal, environment)	Confirmed: Clinically compatible signs and symptoms **AND** 1. A significant (≥4-fold) rise in specific IgG antibody titer to *C. burnetii* phase II antigen **OR** 2. Isolation of *C. burnetii* from a clinical specimen **OR** 3. Detection of *C. burnetii* DNA from a clinical specimen by NAAT testing Probable: Clinically compatible signs and symptoms **AND** 1. Epi-link to a lab-confirmed case **OR** 2. 2009 case definition (#1), slight change: Only asymptomatic, *symptomatic omitted* **OR** 3. Single convalescent serum sample (IgG phase II ≥ 1:256) from a patient who has been ill > 1 week.

Rabies

First reportable in 1991 under HPPA R.S.O. 1990

1996	2009
Confirmed cases only: Clinically compatible signs and symptoms **AND** Lab confirmation by antigen detection, virus isolation, or appropriate serologic evidence	Confirmed: Clinically compatible signs and symptoms **AND** 1. 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** 2. Isolation of rabies virus from saliva, CSF, or CNS tissue using cell culture or laboratory animal **OR** 3. Detection of rabies virus RNA in an appropriate clinical specimen (e.g., saliva) Probable: Clinically compatible signs and symptoms **AND** Demonstration of rabies-neutralizing antibody titre $\geq$ 5 (i.e., complete neutralization) in the serum or CSF of an unvaccinated person

Respiratory infection outbreaks in institutions

First reportable in 2001 through an amendment to O. Reg 559/91 under HPPA R.S.O. 1990

2002	2009	2015
Confirmed respiratory infection outbreak in a Long-Term Care Home: 1. Two cases of acute respiratory tract illness within 48 hours, at least one of which must be lab-confirmed **OR** 2. Three cases of acute respiratory illness (lab confirmation not necessary) occurring within 48 hours in a geographic area (e.g., unit, floor) **OR** 3. More than two units having a case of acute respiratory tract illness within 48 Hours	Confirmed respiratory infection outbreak in a Long-Term Care Home: 2002 case definition	Confirmed respiratory infection outbreak in a Long-Term Care Home: 1. Two cases of acute respiratory infections (ARI) within 48 hours, at least one of which must be laboratory-confirmed; **OR** 2. Three cases of ARI (laboratory confirmation not necessary) occurring within 48 hours in a geographic area (e.g., unit, floor); **OR** 3. More than two units having a case of ARI 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	Confirmed influenza outbreak in a hospital: Two or more cases of nosocomially acquired ARI (e.g., influenza) occurring within 48 hours on a specific hospital unit, with at least one case laboratory-confirmed as influenza.

2002	2009	2015
Suspect outbreak: 1. One laboratory confirmed case of a respiratory pathogen (e.g. influenza, para influenza virus, human Metapneumovirus, etc.) **OR** 2. Two cases of acute respiratory tract illness occurring within 48 hours in a geographic area (e.g., unit, floor) **OR** 3. 3. More than one unit having a case of acute respiratory illness within 48 hours	Suspect respiratory infection outbreak: 1. Two cases of acute respiratory tract illness occurring within 48 hours in a geographic area (e.g., unit, floor) **OR** 2. More than one unit having a case of acute respiratory illness within 48 hours Suspect influenza outbreak: 1. One laboratory-confirmed case of influenza **OR** 2. Two cases of acute respiratory tract illness occurring within 48 hours in a geographic area (e.g., unit, floor) **OR** 3. More than one unit having a case of acute respiratory illness within 48 hours	Suspect respiratory infection outbreak: 1. Two cases of ARI occurring within 48 hours in a geographic area (e.g., unit, floor); **OR** 2. More than one unit having a case of ARI within 48 hours. Suspect influenza outbreak: 1. One laboratory-confirmed case of influenza; **OR** 2. Two cases of ARI occurring within 48 hours in a geographic area (e.g., unit, floor); **OR** 3. More than one unit having a case of ARI within 48 hours.

Rubella

First reportable in 1991 under HPPA R.S.O. 1990

1996	2005	2009	2013
Confirmed cases only: 1. Virus isolation from appropriate clinical specimens **OR** 2. A 4-fold increase in specific antibody **OR** 3. Demonstration of rubella-specific IgM **OR** 4. Clinically compatible signs and symptoms **AND** Epi-link to a lab-confirmed case **OR** 5. Clinically compatible signs and symptoms, including fever, rash, and one of the following: a. Arthritis/arthralgia b. Lymphadenopathy c. Conjuctivitis B. with evidence of rubella activity in the community	Confirmed cases only: 1. 1996 case definition (#1) **OR** 2. 1996 case definition (#3) obtained within 28 days after onset of rash **OR** 3. Paired sera that demonstrate seroconversion or at least a 4-fold increase in rubella-specific IgG antibody titre **OR** 4. A positive rubella PCR test **OR** 5. 1996 case definition (#4) **OR** 6. 1996 case definition (#5)	Confirmed: In the absence of recent immunization with rubella-containing vaccine **AND** 1. 1996 case definition (#1) **OR** 2. Detection of rubella virus RNA by NAT **OR** 3. 1996 case definition (#3) using a recommended assay in a person with an epi-link to a lab-confirmed case or has recently travelled to an area of known rubella activity **OR** 4. 2005 case definition (#3) **OR** 5. 1996 case definition (#4)	Confirmed: Absence of immunization with rubella-containing vaccine in the last 7-42 days **AND** 2009 case definition

1996	2005	2009	2013
		Probable: Clinically compatible signs and symptoms in a person with recent travel to an area of known rubella activity	Probable: 2009 case definition

Rubella, congenital

First reportable in 1991 under HPPA R.S.O. 1990

1996	2005	2009	2013
Confirmed cases only: Clinically compatible signs, symptoms or defects in a liveborn infant or a stillbirth **AND** 1. Isolation of rubella virus **OR** 2. Detection of rubella specific IgM **OR** 3. With persistence of rubella specific IgG above and beyond that expected from passive transfer or maternal antibody **OR** 4. Without lab confirmation	Confirmed cases only: Clinically compatible signs, symptoms or defects in a liveborn infant or a stillbirth **AND** 1. 1996 case definition (#1), from throat swab or urine **OR** 2. 1996 case definition (#2) **OR** 3. 1996 case definition (#3), rubella specific IgG in blood **OR** 4. 1996 case definition (#4)	Confirmed: **Live birth:** Two clinically compatible manifestations (any combination from list A or B below) with lab confirmation of infection and documented maternal rubella in pregnancy: a) Cataracts or congenital glaucoma; Congenital heart defect; Sensorineural hearing loss; Pigmentary retinopathy; b) Purpura; Hepatosplenomegaly; Microcephaly; Micro ophthalmia; Intellectual disability; Meningoencephalitis; Radiolucent bone disease; Developmental or late onset conditions **AND** 1. 2005 case definition (#1), from an appropriate clinical specimen (e.g., throat swab, urine, nasopharyngeal aspirate/wash/swab) **OR**	Confirmed: **Live birth:** 2009 case definition, except: *"documented maternal rubella in pregnancy" omitted*

1996	2005	2009	2013
		2. Detection of rubella virus RNA by NAT from an appropriate clinical specimen **OR** 3. 2005 case definition (#2), in the absence of recent immunization with rubella-containing vaccine **OR** 4. 2005 case definition (#3), 6 months following birth, 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	**Still birth:** 2009 case definition, except: *"documented maternal rubella infection in pregnancy" omitted*
		<u>Probable:</u> 1. Two clinically compatible manifestations from list A above **OR** 2. One of the above **AND** one of the manifestations from list B above	<u>Probable:</u> 2009 case definition, and lacks evidence of any other etiology

Salmonellosis

First reportable in 1991 under HPPA R.S.O. 1990

1996	2009	2013	2014
Confirmed cases only: Clinically compatible signs and symptoms **AND** 1. Isolation of a species of *Salmonella* other than *S. typhi* or *S. paratyphi* from stool or from any body site **OR** 2. An epi link to one or more laboratory confirmed cases	Confirmed: Symptomatic or asymptomatic **AND** 1996 case definition (#1) Probable: 1996 case definition (#2)	**No change** * Note: Salmonella Paratyphi B variant java now entered as Salmonellosis, not Paratyphoid Fever[7]	Confirmed: 2009 case definition, but "*S. typhi* or *S. paratyphi*" revised to "*Salmonella* Typhi or Paratyphi"; revised "from an **appropriate clinical specimen (e.g., sterile site, blood, stool, urine)**" Probable: 2009 case definition **OR** Positive NAAT for *Salmonella* spp. without culture confirmation

Severe Acute Respiratory Syndrome (SARS)

First reportable in 2003 through an amendment to O. Reg 559/91 under HPPA R.S.O. 1990

2003	2005	2009	2014
Temporary case definitions during the outbreak Probable: 1. Fever >38°C **AND** 2. Cough or shortness of breath **AND** 3. Epi-link during 10 days prior to onset of symptoms to: Close contact with person who is suspect/ probable case **OR** Recent travel to an area with recent local transmission of SARS outside of Canada **OR** Recent travel or visit to an identified setting in Canada where exposure to SARS may have occurred **AND** 4. Radiological evidence of pneumonia or infiltrates indicative of respiratory distress disorder (RDS) Suspect: Probable case definition #1,2,3 (without #4)	Confirmed: **Living person** 1. Early presentation of SARS (Fever >38°C **AND** cough or breathing difficulty) **AND** 2. Radiographic evidence consistent with SARS, Radiographic evidence of infiltrates consistent with pneumonia or respiratory distress syndrome (RDS)* **AND** 3. Lab evidence of SARS-associated coronavirus (SARS-CoV) infection (NAT-PCR or serconversion or virus isolation) *During the outbreak, persons without x-ray changes may have lab evidence of SARS-CoV infection if tested as part of an outbreak; considered as confirmed SARS-CoV infections	Confirmed: **Living person** 2005 case definition, except: (#1) Early presentation of **clinically compatible signs and symptoms of SARS AND** (#2) Radiographic evidence consistent with SARS **AND** (#3) Lab evidence of SARS-CoV infection	Confirmed: **Living person** 2009 case definition (#3) **AND** Early presentation of clinically compatible signs and symptoms of SARS with/without radiographic evidence consistent with SARS

2003	2005	2009	2014
	Deceased person 1. Early clinical presentation of SARS **AND** 2. Autopsy findings consistent with SARS (evidence of pneumonia or RDS without an alternate identifiable cause) **AND** 3. Lab evidence of SARS coronavirus infection (NAT-PCR or seroconversion, if appropriate specimens available, or virus isolation)	**Deceased person** 2005 case definition, except: (#1) (i.e., fever **AND** cough **OR** difficulty breathing resulting in death)	**Deceased person** 2005 case definition, but (#1) includes: **(i.e. fever AND cough OR difficulty breathing resulting in death)**
	Probable: **Living person** 1. Early clinical presentation of SARS **AND** 2. Evidence consistent with SARS (Radiographic evidence of infiltrates consistent with pneumonia or respiratory distress syndrome (RDS) **AND** 3. Epi-link to: a person or place linked to SARS within 10 days of onset of symptoms **OR** Close contact with a symptomatic person who has lab evidence of SARS-CoV	Probable: **Living person** 2005 case definition, except (#3): 3. Epi link to: 2005 case definition **OR** lab exposure to SARS-CoV	Probable: **Living person** 2009 case definition, except (#2): Early clinical presentation of SARS **with or without radiographic evidence consistent with SARS** (#3): An epi-link to a person or place linked to SARS, **including**: Close contact with a confirmed SARS case, within 10 days of onset of symptoms **OR** Close contact with a symptomatic person who has lab evidence of SARS-CoV infection, within 10

2003	2005	2009	2014
	infection, within 10 days of onset of symptoms **OR** Residence/ recent travel to an area with recent local transmission of SARS within 10 days prior to onset of symptoms **Deceased person (part 1)** 1. History of early clinical presentation of SARS **AND** 2. Autopsy findings consistent with SARS (Consistent with pathology of RDS without identifiable cause) **AND** 3. Epi-link to a person or place linked to SARS within 10 days of onset of symptoms **OR** close contact with a symptomatic person who has lab evidence of SARS-CoV infection within 10 days of onset of symptoms **OR** Residence/ recent travel to an area with recent local transmission of SARS within 10 days prior to onset of symptoms **OR** close contact with a probable case who has been to an area with recent local transmission of SARS	**Deceased person** 2005 case definition, part 1, except: (#3) An epi link to a person or place linked to SARS	days of onset of symptoms **OR** Residence/recent travel or visit to to an "area with recent local transmission" of SARS within 10 days prior to onset of symptoms **OR** Close contact 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; this includes health care workers who were not wearing personal protective equipment **OR** Lab exposure to SARS-CoV **where appropriate barriers and personal protective equipment were not in place** **Deceased person** 2009 case definition, except (#2) brackets omitted **AND** (#3) simplified: An epi- link to a person or place linked to SARS

2003	2005	2009	2014
	within 10 days prior to onset of symptoms **OR** Symptomatic lab workers dealing with SARS-CoV **Deceased person (part 2)** 1. History of early clinical presentation of SARS **AND** 2. Lab evidence of SARS coronavirus infection (NAT-PCR or serconversion, if appropriate specimens available, or virus isolation)	*Deceased person—part 2 eliminated*	

Shigellosis

First reportable in 1991 under HPPA R.S.O. 1990

1996	2009	2014
Confirmed cases only: Clinically compatible signs and symptoms **AND** 1. Isolation of *Shigella* from stool or any body site **OR** 2. An epi link to one or more laboratory confirmed cases	Confirmed: Laboratory confirmation, symptomatic or asymptomatic **AND** 1. Isolation of *Shigella* spp. **from an appropriate clinical specimen (e.g., stool, urine**) Probable: 1996 case definition (#2)	Confirmed: Laboratory confirmation, symptomatic or asymptomatic **AND** 1. 2009 case definition (#1), except examples are “stool, rectal swab” Probable: Clinically compatible signs and symptoms in a person with an epi link to a lab-confirmed case **OR** Positive NAAT result for *Shigella* spp.

Smallpox

First reportable in 2001 through an amendment to O. Reg 559/91 under HPPA R.S.O. 1990

2005	2009
Confirmed cases only: Clinically compatible signs and symptoms of disease with laboratory confirmation: 1. Isolation of variola virus from appropriate clinical specimen **OR** 2. Critical illness in a person who is epi-linked to a confirmed case	Confirmed: Laboratory confirmation of infection with clinically compatible signs and symptoms: 1. Detection of variola virus nucleic acid **OR** 2. Isolation of variola virus from an appropriate clinical specimen (e.g., blood, vesicular flouid, scabs), followed by confirmation through detection of variola virus nucleic acid **OR** 3. Detection of poxvirus particles in a clinical specimen by electron microscopy followed by confirmation through detection of variola virus nucleic acid Probable: Clinically compatible signs and symptoms in a person with an epidemiologic link to a lab-confirmed case Suspect: Clinically compatible signs and symptoms in a person without an epi-link **OR** Atypical lesion (illness) known to be associated with variola virus on a person with an epi-link

Syphilis

First reportable in 1991 under HPPA R.S.O. 1990

1996	2004	2009	2010	2011	2014
Confirmed cases only: **Primary Other Sites:** Symptomatic **AND** 1. Detection of *T. pallidum* by darkfield microscopy or by direct fluorescent antibody technique in material from a chancre or in aspirated material from a regional lymph node **OR** 2. The presence of 1+ typical lesions and one or more of the following conditions: • Reactive nontreponemal and treponemal tests but no previous history	Confirmed: 1996 case definition Suspect: Any infant whose mother had untreated or inadequately treated syphilis at delivery, regardless of findings in infant **OR** Any infant or child who has a reactive treponemal test for syphilis and any one of the following: 1. Any evidence of congenital syphilis on physical examination **OR** 2. Any evidence of congenital syphilis on a long	Confirmed cases only: **Primary Syphilis:** 1. 1996 case definition, but can also use NAT or equivalent examination **OR** 2. 1996 case definition **Secondary Syphilis:** 1. 1996 case definition, but can also use NAT or equivalent examination of mucocutaneous lesions, condylomata lata and reactive serology (non-treponemal and treponemal) **OR** 2. 1996 case	Confirmed cases only: 2009 case definition, except: **Neurosyphilis, infectious**: Reactive treponemal serology (regardless of non-treponemal serology reactivity) **AND** 2009 case definition (#1 and 2) **Neurosyphilis, non-infectious:** Reactive treponemal serology (regardless of non-treponemal serology reactivity) **AND** 2009 case definition (#1 and 2)	Confirmed cases only: 2009 case definition, except: **Neurosyphilis, Infectious *(back to 2009 case definition)*:** Either Primary, Secondary, or Early Latent Syphilis **AND** 1. Reactive CSF-VDRL in non-bloody CSF **OR** 2. Either elevated CSF leukocytes or elevated CSF protein in the absence of other known causes	Confirmed cases only: 2009 case definition, except: **Primary Syphilis:** (#1), but "NAT" changed to "NAAT" **OR** Presence of 1+ typical lesions (chancres), and reactive treponemal serology, regardless of NTT reactivity, in individuals with no previous history of syphilis **OR** Presence of 1+ typical lesions (chancres) and a significant ≥4-fold rise in the titre over the last known NTT in

1996	2004	2009	2010	2011	2014
of syphilis • Reactive treponemal tests alone • A ≥4-fold increase in titre over the last known NTT in individuals with a past history of syphilis treatment **Secondary, other:** Symptomatic **AND** 1. Detection of *T. pallidum* by darkfield microscopy or direct fluorescent antibody technique in material from skin or mucosal lesions and reactive nontreponemal and treponemal serology **OR** 2. Signs of secondary syphilis **AND** reactive syphilis serology	bone x-ray **OR** 3. Reactive CSF VDRL **OR** 4. Elevated CSF cell count or protein (without other cause) **OR** 5. Quantitative nontreponemal serologic titres which are 4-fold higher than mother's (both drawn at birth) **OR** 6. Reactive test for FTA-ABS-19S-IgM antibody	definition; Secondary syphilis symptoms include: mucocutaneous lesions, alopecia, loss of eyelashes and lateral third of eyebrows, iritis, generalized lymphadenopathy, fever, malaise or splenomegaly **Early Latent Syphilis:** 1996 case definition, but the conditions would be within 12 months **Late Latent Syphilis:** 1996 case definition, but only reactive treponemal activity is required (regardless of nontreponemal activity) **Neurosyphilis,**			individuals with a past history of appropriate syphilis treatment **Secondary Syphilis** 2009 case definition (#1), but "NAT" changed to "NAAT" **OR** (#2), symptoms **AND** either a reactive serology (non-treponemal and treponelmal) **OR** a significant ≥4-fold rise in titre of NTT **Neurosyphilis, Infectious:** 2011 case definition, but (#2) includes clinical evidence of neurosyphilis

1996	2004	2009	2010	2011	2014
(nontreponemal and treponemal tests) **OR** ≥4-fold or greater increase in titre over the last known nontreponemal tests **Early Latent (<1 year after infection):** Asymptomatic **AND** Reactive nontreponemal and treponemal tests, known to have had within the previous 24 months or more of the following conditions: • Nonreactive serologic test • Previous symptoms highly suggestive of primary or secondary syphilis • Exposure to a sexual partner with confirmed		**Infectious:** Either Primary, Secondary, or Early Latent Syphilis **AND** 1. Reactive CSF-VDRL in non-bloody CSF **OR** 2. Either elevated CSF leukocytes or elevated CSF protein in the absence of other known causes **Neurosyphilis, non-infectious:** Late Latent Syphilis **AND** 1. Reactive CSF-VDRL in non-bloody CSF **OR** 2. Either elevated CSF leukocytes or elevated CSF protein in the absence of other known causes			**Neurosyphilis, non-infectious:** 2010 case definition, but (#2) includes clinical evidence of neurosyphilis

1996	2004	2009	2010	2011	2014
primary, secondary, or early latent syphilis **Late Latent:** Asymptomatic **AND** Stable, reactive nontreponemal and treponemal tests **AND** Does not meet criteria for early latent syphilis **AND** Has not been previously treated adequately for syphilis **Neurosyphilis, Unspecified**: 1. The findings of pleocytosis (particularly lymphozytes), elevated protein and reactive		**Early Congenital Syphilis (within 2 years of birth):** 1. 1996 case definition (for up to 4 weeks of age) **OR** 2. Reactive serology (non-treponemal and treponemal) from venous blood (not cord blood) in an infant/child with clinical, lab, or radiographic evidence of congenital syphilis **OR** 3. Detection of *Treponema pallidum* DNA in an appropriate clinical specimen **Tertiary Syphilis (other than Neurosyphilis):** No clinical or lab			**Early congenital syphilis:** 1. 2009 case definition, but includes NAAT or equivalent examination of material from nasal discharges, skin lesions, placenta, umbilical cord or autopsy material **OR** 2009 case definition (#2 and 3)

1996	2004	2009	2010	2011	2014
nontreponemal tests in a non-bloody CSF **AND** 2. Reactive (treponemal, +/- nontreponemal) syphilis tests in the peripheral blood **Early Congenital Syphilis, Unspecified:** Newborn or infant **AND** 1. *T. pallidum* demonstrated by darkfield microscopy or by direct fluorescent antibody technique in material from nasal discharges, skin lesions or tissues **OR** 2. Signs of congenital syphilis and positive nontreponemal		evidence of neurosyphilis **AND** Reactive treponemal serology (regardless of NTT 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)			

1996	2004	2009	2010	2011	2014
and treponemal serology **OR** 3. Positive nontreponemal and treponemal serology who remains positive at 3 and 6 months follow-up					

Tetanus

First reportable in 1991 under HPPA R.S.O. 1990

1996	2009	2014
Confirmed cases only: Clinically compatible signs and symptoms with or without evidence of injury **AND** 1. Demonstration of *Clostridium tetani* or its toxin from clinical specimens **OR** 2. Without lab evidence and in absence of other apparent medical cause	Confirmed cases only: 1996 case definition, but removal of toxin detection	Confirmed cases only: Clinical evidence of illness without other apparent medical cause **AND w**ith or without isolation of *C. tetani* **AND** with or without history of injury

Trichinosis

First reportable in 1991 under HPPA R.S.O. 1990

1996	2009	2014
Confirmed cases only: Clinically compatible signs and symptoms **AND** 1. Demonstration of *Trichinella spiralis* in a muscle biopsy **OR** 2. Positive serology **OR** 3. 3. An epi-link to a confirmed case of trichinosis or to meat known to contain *Trichinella* larvae	Confirmed: Same as 1996 case definition (#1 and 2) Probable: 1996 case definition (#3)	Confirmed: With or without clinically compatible signs **OR** 2009 case definition (#1 and 2) Probable: Clinically compatible signs and symptoms **AND** 1996 case definition, slight change: An epi-link to a lab-confirmed case or to a **confirmed food source** (e.g. meat known to contain *Trichinella larvae)*

Tularemia

First reportable in 1991 under HPPA R.S.O. 1990

1996	2009	2014
Confirmed cases only: Clinically compatible signs and symptoms **AND** 1. Isolation of *Francisella tularensis* from an appropriate clinical specimen **OR** 2. A ≥4-fold increase in specific antibody **OR** 3. A specific antibody titre of ≥1/160 in one or more specimens **OR** 4. Positive fluorescent antibody tests on a clinical specimen	Confirmed: 1. 1996 case definition (#1) **OR** 2. 1996 case definition (#2) *1996, case definition (3and4) eliminated* Probable: Clinically compatible signs and symptoms **AND** 1. Detection of *F.tularensis* in a clinical specimen (eg, lymph node aspirates, ulcer exudate) by fluorescent assay **OR** 2. Detection of *F. tularensis* nucleic acid **OR** 3. 3. ≥1:128 microagglutination titre **OR** ≥ 1:160 tube agglutination in a single serum specimen	Confirmed: 2009 case definition (#1-2), but slight change: #2 A ≥4-fold **rise in serum antibody titre to *F. tularensis* antigen** Probable: Clinically compatible signs and symptoms **AND** 1. 2009 case definition (#1) **OR** 2. Detection of *F. tularensis* by **NAAT** **OR** 3. 2009 case definition (#3)

Tuberculosis

First reportable in 1991 under HPPA R.S.O. 1990

2006	2009	2015
Confirmed cases only: 1. With *Mycobacterium tuberculosis complex* (e.g., *M. tuberculosis, M. bovis* (excluding BCG strain), or *M. africanum*) demonstrated on culture from sputum, body fluids, or tissues **OR** 2. Without bacteriological proof but with clinical symptoms or signs, radiological or pathological evidence of active pulmonary or nonpulmonary disease, with a. Positive tuberculin skin test **OR** b. Demonstration of acid-fast bacilli in smears from sputum or other body fluids or tissues **OR** c. Response to antituberculous treatment	Confirmed: 1. 1996 case definition (#1) **OR** 2. In absence of bacteriological proof, cases clinically compatible with active tuberculosis that have: a. Radiological changes compatible with active tuberculosis **AND** b. Histopathologic or post-mortem evidence of active tuberculosis **OR** c. 1996 case definition (#2c)	Confirmed: 1. 2009 case definition, **but**: With *Mycobacterium tuberculosis* complex (MTB complex) demonstrated on culture **from an appropriate specimen** (e.g. sputum, body fluid or tissue) specifically *M.Tuberculosis,* ***M. africanum, M. canetti, M. caprae, M. microti, M. pinnipedii*** *or M. bovis* (excluding *M. bovis* BCG strain) **OR** **2.** 2009 case definition (#2a) **OR (#2**b) **OR** (#2c) **OR** d. Detection of MTB complex by NAAT with compatible clinical and epidemiological associated information **OR** e. Active nonrespiratory tuberculosis (meningeal, bone, kidney, peripheral lymph nodes, etc.) Note: A case should not be counted twice within any consecutive 12-month period, unless a second genotype is detected.

2006	2009	2015
	Suspect: Signs and symptoms compatible with active disease **AND** 1. Radiological findings suggestive of active disease **OR** 2. 1996 case definition (#2b) **OR** 3. Detection of MTB complex by NAT **OR** 4. Histopathology suggestive of MTB disease	Suspect: 2009 case definition (#1 and 2) *2009 case definition (#3 and 4) eliminated* Latent: The presence of latent infection with *Mycobacterium tuberculosis* as determined by a TST or an IGRA **AND** a. No evidence of clinically active disease **AND** b. No evidence of radiographic changes that suggest active disease **AND** c. Negative microbiologic tests, if performed

Typhoid Fever

First reportable in 1991 under HPPA R.S.O. 1990

1996	2009	2014
Confirmed cases only: Clinically compatible signs and symptoms **AND** Isolation of *Salmonella typhi* from an asymptomatic individual	Confirmed: 1996 case definition Probable: Clinically compatible signs and symptoms **AND** 1. An epi link to a lab-confirmed case	Confirmed: Symptomatic or asymptomatic **AND** Isolation of Salmonella Typhi from an appropriate **clinical** specimen (e**.g., sterile site, stool, urine, bone marrow)** Probable: Clinically compatible signs and symptoms **AND** 1. 2009 case definition (#1) **OR** 2. Positive NAAT for Salmonella Typhi without culture confirmation

Verotoxin producing *E. Coli* (VTEC) and Haemolytic uraemic syndrome (HUS)

First reportable in 1991 under HPPA R.S.O. 1990

1996	2009	2014
Confirmed cases only: Clinically compatible signs and symptoms **AND** 1. Identification of verocytotoxin in stool specimen **OR** 2. Isolation of one or more strains of verocytotoxigenic *E.coli* from stool or blood **OR** 3. An epi link to 2 or more lab-confirmed cases • Haemolytic uraemic syndrome (HUS), not caused by defects in serum complement, chemotherapy, immunosuppressants in organ transplants, pregnancy or oral contraceptives, or known infections other than *E. coli* • Clinical evidence of HUS: uraemia, thrombocytopenia, acute renal failure, CNS signs and symptoms • Diarrheal prodrome in 86-95% patients and 60-75% of diarrhea is bloody	Confirmed: Symptomatic or asymptomatic **AND** 1. Isolation of VTEC from appropriate clinical specimen **OR** 2. Detection of verotoxin antigen or nucleic acid from appropriate clinical specimen Probable: 1. 1996 case definition (#3), but only one epi link minimum required **OR** 2. HUS, details from 1996 case definition	Confirmed: 2009 case definition (#1), (**e.g. stool, urine, blood**) Probable: Clinically compatible signs and symptoms **AND** 1. 2009 case definition (#1) **OR** 2. HUS, details from 1996 case definition **OR** 3. Detection of verotoxin antigen or nucleic acid from an appropriate clinical specimen (e.g., stool, urine, blood)

West Nile Virus Illness

First reportable in 2003 through an amendment to O. Reg 559/91 under HPPA R.S.O. 1990

2004	2009	2014
West Nile virus Neurological Syndromes (WNNS) / West Nile virus Fever (WNF)	**West Nile virus Neurological Syndromes (WNNS) / West Nile virus Non-Neurological Syndrome (WN Non-NS)**	**West Nile virus Neurological Syndromes (WNNS) / West Nile virus Non-Neurological Syndrome (WN Non-NS)**
Confirmed: Clinical criteria **AND** 1. A ≥4-fold change in WN virus neutralizing antibody titres (using Plaque Reduction Neutralization Test-PRNT) in paired acute and convalescent sera OR a PRNT titre of ≥1:40 on a single serum sample **AND** 2. Demonstration of flavivirus antibodies in a single serum or CSF sample using two WN virus IgM ELISAs	Confirmed: Clinical criteria **AND** 1. 2004 case definition (#1), but CSF can also be used **OR** 2. Demonstration of flavivirus antibodies in a single serum or CSF sample using a WN virus IgM ELISA, confirmed by the detection of WN virus specific antibodies using PRNT (acute or convalescent serum sample) **OR** 3. 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** 4. A ≥4-fold rise in flavivirus	Confirmed: 2009 case definition

2004	2009	2014
	haemagglutination inhibition (HI) titres in paired acute and convalescent sera or demonstration of a seroconversion using a WN virus IgG ELISA **AND** the detection of WN specific antibodies using PRNT (acute or convalescent serum sample)	
Probable: Clinical criteria **AND** 1. Detection of flavivirus antibodies in a single serum or CSF sample using two WN virus IgM ELISAs without confirmatory neutralization serology (E.g., PRNT) **OR** 2. Demonstration of Japanese encephalitis (JE) serocomplex-specific genomic sequences in blood by NAT screening on donor blood, by Blood Operators in Canada	Probable: Clinical criteria **AND** 1. 2004 case definition (#1 and 2) (but only 1 WN IgM ELISA needed for #1) **OR** 2. A ≥4-fold rise in flavivirus HI titres in paired acute and convalescent sera or demonstration of a seroconversion using a WN virus IgG ELISA **OR** 3. A titre of ≥1:320 in a single WN virus HI test, or an elevated titre in a WN virus IgG ELISA, with confirmatory PRNT result	Probable: 1. Detection of flavivirus antibodies in a single serum or CSF sample using a WN virus IgM ELISA2 without confirmatory neutralization serology (e.g., PRNT) **OR** 2. 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 ELISA2 **OR** 3. A titre of > 1:320 in a single WN virus HI test, or an elevated titre in a WN virus IgG ELISA, with a confirmatory PRNT result **OR** 4. Demonstration of Japanese encephalitis (JE) serocomplex-specific genomic sequences in blood by nucleic acid amplification test (NAAT) screening on donor blood, by Blood Operators in Canada.

2004	2009	2014
Suspect: Clinical criteria **but** in absence of any lab test	Suspect: Same as 2004 case definition	*Suspect case definition eliminated*
West Nile virus Asymptomatic Infection (WNAI)	**West Nile virus Asymptomatic Infection (WNAI)**	**West Nile virus Asymptomatic Infection (WNAI)**
Confirmed: Above lab criteria **but** no clinical criteria	Confirmed: Above lab criteria **but** no clinical criteria	Confirmed: Above lab criteria **but** no clinical criteria
Probable: Above lab criteria **but** no clinical criteria	Probable: Above lab criteria **but** no clinical criteria	Probable: Above lab criteria **but** no clinical criteria

Yellow Fever

First reportable in 1991 under HPPA R.S.O. 1990

1996	2009	2014
Confirmed cases only: Clinically compatible signs and symptoms **AND** 1. Isolation or detection of yellow fever virus **OR** 2. Detection of yellow fever viral antigen in serum or tissue **OR** 3. A ≥4-fold rise in antibody titre in the absence of yellow fever vaccination within the previous two months **OR** 4. A single yellow fever specific IgM titre in the absence of yellow fever vaccination within the previous two months	Confirmed: 1996 case definition **but:** (#3 and 4), cross-reactive serological reactions to other falviviruses must be excluded **OR** 5. Detection of yellow fever nucleic acid in body fluids or tissue Probable: Clinically compatible signs and symptoms **AND** Stable elevated antibody titre to yellow fever virus with no other cause (cross-reactive serologic reactions to other flaviviruses must be excluded and no history of yellow fever vaccination)	Confirmed: 2009 case definition (#1-3), **but**: 1. 2009 case definition (#1), *"or detection" omitted* **OR** 2. 2009 case definition (#2), includes detection of nucleic acid; "serum" changed to "body fluids" (#2and5 combined) **OR** 3. 2009 case definition (#3), to the yellow fever virus or a single elevated yellow fever IgM antibody titre *2009 case definition (#4) eliminated* Probable: 2009 case definition

Yersiniosis

First reportable in 1991 under HPPA R.S.O. 1990

1996	2009	2014
Confirmed cases only: Clinically compatible signs and symptoms **AND** 1. Isolation of *Yersinia enterocolotica* from stool or body fluids **OR** 2. An epi link to two or more laboratory confirmed cases	Confirmed: Symptomatic or asymptomatic **AND** 1. 1996 case definition (#1) **OR** 2. A positive serological test for *Yersinia* spp. Probable: 1996 case definition (#2), but only one epi link minimum required	Confirmed: 2010 case definition, but: 1. 2009 case definition (#1) , revised "from an appropriate clinical specimen (e.g., stool, blood, urine) **OR** 2. Detection of *Yersinia enterocolitica* by NAAT from an appropriate clinical specimen Probable: 2009 case definition

References

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3. Ontario. Ministry of Health and Long-Term Care. Infectious diseases protocol, 2009. Appendix B: Provincial case definitions for reportable diseases. Toronto, ON: Queen's Printer for Ontario; 2009 [cited 2017 Jul 12]. Available from: http://www.health.gov.on.ca/en/pro/programs/publichealth/oph_standards/infdispro.aspx

4. *Health Protection and Promotion Act*, RSO 1990, c H7 Available from: http://www.e-laws.gov.on.ca/html/statutes/english/elaws_statutes_90h07_e.htm