衞生防護中心
Centre for Health Protection
保障市民健康
Protecting Hong Kong's health

Communicable Disease Surveillance Case Definitions

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This document lists the case definitions of notifiable infectious diseases under the Prevention and Control of Disease Ordinance (Cap 599) (latest revision on 5 April 2024) and communicable diseases of topical public health concern.

Content

Section I
Case-based Surveillance

Introduction

Surveillance provides the basis for formulation of communicable disease prevention and control strategies. Among the various approaches to surveillance, case-based surveillance (reporting of suspected or confirmed cases for investigation) remains the cornerstone in establishing the local disease epidemiology. Information collected and analysed form the basis case detection and control at individual level, for monitoring trends of emerging and re-emerging diseases, planning for public health programmes, and evaluating the effectiveness of intervention activities.

Case-based surveillance

The number and type of diseases to be put under case-based surveillance is a balance between the public health significance of the disease and resources required for supporting the process of disease reporting and case-based investigation. The following factors are considered whether a disease or condition is included in case-based surveillance:

- Frequency and severity of disease
- Potential for outbreak
- Potential as a biological weapon
- Need for prompt public health intervention
- International health requirements or with regional importance
- Assessment for major public health programmes, especially immunization
- Emerging pathogen

In Hong Kong, case-based communicable disease surveillance covers diseases or conditions falling under two categories (Table 1):

(a) Notifiable infectious diseases

Since July 14, 2008, the Prevention and Control of Disease Ordinance (Cap. 599) has become effective to replace the Quarantine and Prevention of Disease Ordinance (Cap. 141). The First Schedule to the Ordinance listed the notifiable infectious diseases. According to the law, a medical practitioner has to notify the Department of Health when he/she has

reasons to suspect his patient is suffering from any of these diseases. It is not necessary to wait for laboratory confirmation. Timely notification can facilitate rapid control actions. The Director of Health is empowered to enlist infectious diseases to the First Schedule.

(b) Communicable diseases of topical public health concern

From time to time, diseases of topical importance may require special case-based surveillance and management. Some of these diseases are generally infrequently encountered and potentially have severe clinical or public health significance, or may be newly emerging with uncertain public health implications, or may be involved in suspected outbreaks. On the other hand, for other milder yet more common diseases, such as influenza or norovirus infections, we focus on outbreaks that occur in institutions that may be associated with larger scale transmission. In general, one may suspect an outbreak has occurred if the number of attendees or staffs of an institution presented with similar symptoms within a short period of time is higher than usual.

For public health reasons, all medical practitioners are urged to report to the Department of Health when they suspect their patients are suffering from any of these conditions. The list of conditions put under this category is regularly reviewed and updated with due consideration of latest disease trends.

Surveillance case definition

For conditions of both categories put under case-based surveillance, the Centre for Health Protection will investigate the notified case, recommend the relevant control measures, and regularly review the trends. To facilitate meaningful comparison of epidemiological patterns, diseases or conditions included under case-based surveillance are classified based on a set of surveillance case definitions.

In case-based surveillance, each reported case can be classified as confirmed, probable, or clinical case according to the clinical, epidemiological and laboratory findings. A confirmed case generally refers to a patient presented with compatible clinical features and the

laboratory studies fulfil one or more of the laboratory confirmation criteria listed for the condition. Some cases may be classified as "deleted" if investigation revealed that the epidemiological, clinical and/or laboratory findings do not meet the surveillance case definition. Such cases will be excluded in the trend analysis. The status of any reported cases may be updated based on the latest available evidence collected during the investigations.

Trend monitoring and the regular statistics on case-based surveillance generally refer to confirmed cases. However, the probable or clinical cases may also be included in the regular statistics for some diseases for which (a) the diagnosis is primarily by clinical assessment; (b) laboratory confirmation is uncommonly conducted; (c) a sensitive surveillance is preferred over specificity; and (d) confirmation or exclusion of the diagnosis may require a prolonged period. Chickenpox and viral hepatitis are among the examples.

Nonetheless, the above classification is for surveillance purpose and should not exclude the implementation of relevant control measures before the final conclusion is drawn.

Surveillance case definitions may change over time to reflect the changing epidemiology, and advance in science and diagnostic technology. They are used for classification purpose and should not be used as the sole criteria for establishing clinical diagnoses, determining the standard of care necessary for a particular patient, or initiating public health actions.

Use of data

The case-based data is used for immediate response including delineation of case status, verification of epidemiological, clinical and laboratory data, and, as appropriate, implementation of the necessary control measures. Apart from case investigations, the de-identified data will be reviewed regularly so as to identify any abnormal patterns and changes in epidemiology. Data protection principles as specified by the Personal Data (Privacy) Ordinance are applied and, whenever electronic database is maintained, the security principles promulgated by the Office of the Government Chief Information Officer are adopted. The monthly

notification figures for the notifiable infectious diseases are uploaded to the Centre for Health Protection website. The recent statistics may change over time when more information is collected and the case is re-classified, say, from clinical/probable to confirmed or deleted case. Moreover, the case classification will be made based on the current case definition. The users of these data should be aware of these changes and understand the potential impact to their study questions in mind.

Table 1. Communicable diseases covered under case-based surveillance

Notifiable infectious diseases	Communicable diseases of topical public health concern
VI. Case-based Surveillance **VII. Notifiable Infectious Diseases** ***Acute poliomyelitis*** ***Amoebic dysentery*** ***Anthrax*** ***Bacillary dysentery*** ***Botulism*** ***Chickenpox*** ***Chikungunya fever*** ***Cholera*** ***Community-associated MRSA infection*** ***Coronavirus disease 2019 (COVID-19)*** ***Creutzfeldt-Jakob disease*** ***Dengue fever*** ***Diphtheria*** ***Enterovirus 71 infection*** ***Food poisoning outbreak*** ***Haemophilus influenzae type b infection (invasive)*** ***Hantavirus infection*** ***Invasive pneumococcal disease*** ***Japanese encephalitis*** ***Legionnaires' disease*** ***Leprosy*** ***Leptospirosis*** ***Listeriosis*** ***Malaria*** ***Measles*** ***Melioidosis*** ***Meningococcal infection (invasive)*** ***Middle East Respiratory Syndrome*** ***Mpox*** ***Mumps*** ***Novel influenza A infection*** ***Paratyphoid fever*** ***Plague*** ***Psittacosis*** ***Q fever*** ***Rabies*** ***Relapsing fever*** ***Rubella and Congenital Rubella Syndrome*** ***Scarlet fever*** ***Severe Acute Respiratory Syndrome (SARS)*** ***Shiga toxin-producing Escherichia coli infection*** ***Smallpox*** ***Streptococcus suis infection*** ***Tetanus*** ***Tuberculosis*** ***Typhoid fever*** ***Typhus and other rickettsial diseases*** ***Viral haemorrhagic fever*** ***Viral hepatitis*** ***West Nile Virus Infection*** ***Whooping cough (Pertussis)*** ***Yellow fever*** ***Zika Virus Infection***	1. Diseases with potential for bioterrorism: ● Brucellosis 2. Diseases with potential for large scale outbreaks requiring prompt source/contact tracing and public health intervention: ● Cryptosporidiosis 3. Conditions requiring special surveillance as a proxy for diseases that have been declared free from the local community: ● Acute flaccid paralysis* (surveillance for acute poliomyelitis) 4. Emerging diseases or unusual clustering of communicable diseases in the local community requiring public health assessment: ● *Vibrio vulnificus* infection (with necrotising fasciitis) 5. Conditions requiring special surveillance ● Severe paediatric enterovirus infection (other than EV71 and poliovirus) ● Severe paediatric influenza-associated complication/death 6. Common outbreaks that occur in institutions: ● Influenza-like illness or any other upper respiratory illness; ● Acute gastroenteritis; ● Hand, foot and mouth disease (HFMD) and herpangina; ● Acute conjunctivitis.

VIII. Communicable Diseases of Topical Public Health Concern ***Acute flaccid paralysis*** ***Brucellosis*** ***Cryptosporidiosis*** ***Severe paediatric enterovirus infection (other than EV71 and poliovirus)*** ***Severe paediatric influenza-associated complication/death*** ***Vibrio vulnificus infection (with necrotising fasciitis)*** ***Acute conjunctivitis outbreak*** ***Acute gastroenteritis outbreak*** ***Hand, foot and mouth disease (HFMD) and herpangina outbreak*** ***Outbreaks of respiratory infection including influenza*** **IX. Acknowledgement**	

Note: For surveillance purposes, the regular statistics generally include only confirmed cases except for those diseases marked with an asterisk (*) which also include probable or clinical cases.

Section II
Notifiable Infectious Diseases

Acute poliomyelitis

(Last updated on 14 July 2008)

Description

Acute flaccid paralysis of one or more limbs with decreased or absent deep tendon reflexes on the affected limbs. There is no sensory or cognitive loss and no other apparent cause.

There are two types of paralytic poliomyelitis:

- **Wild-type Paralytic Poliomyelitis**: an AFP case with wild poliovirus isolation
- **Vaccine-associated Paralytic Poliomyelitis (VAPP)**: an AFP case in which vaccine-like poliovirus is isolated from stool samples, and the virus is believed to be the cause of the disease

Laboratory criteria

Isolation of either vaccine or wild type poliovirus from a clinical specimen.

Confirmed case

A clinically compatible case with laboratory confirmation.

Probable case

An AFP case that meets the clinical description but with inadequate specimens. The case needs to be assessed by a panel of experts to determine whether the case is polio-compatible or should be discarded as non-polio AFP.

Amoebic dysentery

(Last updated on 14 July 2008)

Description

A diarrhoeal illness of variable severity, ranging from mild and chronic to acute and fulminant dysentery.

Laboratory criteria

Any one of the following:

- Demonstration of cysts or trophozoites of *Entamoeba histolytica* in stool
- Demonstration of trophozoites in tissue biopsy or ulcer scrapings by culture or histopathology

Confirmed case

A clinically compatible case with laboratory confirmation.

Probable case

A clinically compatible case without laboratory confirmation, but is epidemiologically linked to a confirmed case.

Anthrax

(Last updated on 25 July 2019)

Clinical Description

An acute illness characterised by several clinical forms summarised as follows:

- **Localised form:**
  i. **Cutaneous**: skin lesion evolving over 1 to 6 days from a papular through a vesicular stage, to a depressed black eschar invariably accompanied by oedema that may be mild to extensive.
- **Systemic forms:**
  i. **Pulmonary (inhalational)**: brief prodrome resembling acute viral respiratory illness, followed by rapid onset of hypoxia, dyspnoea and high temperature, with X-ray evidence of mediastinal widening.
  ii. **Intestinal**: abdominal distress characterised by nausea, vomiting, anorexia, fever, severe abdominal pain, haematemesis, bloody diarrhoea and ascites.
  iii. **Oropharyngeal**: sore throat, dysphagia, fever, regional lymphadenopathy in the neck and toxaemia.
  iv. **Meningeal**: acute onset of high fever possibly with convulsions and loss of consciousness, meningeal signs and symptoms.

Laboratory Criteria

Any one of the following:

- Detection of nucleic acid of *Bacillus anthracis* in a clinical specimen;
- Demonstration of *Bacillus anthracis* by microscopic examination of immunohistochemical stained smear of a clinical specimen; OR
- Isolation of *Bacillus anthracis* from a clinical specimen.

Case Classification

Confirmed case

A clinically compatible case that fulfils any of the above laboratory criteria.

Bacillary dysentery

(Last updated on 14 July 2008)

Description

An illness of variable severity characterized by diarrhoea (with blood, mucus or pus), fever, nausea, vomiting, abdominal cramps and tenesmus.

Laboratory criteria

Isolation of *Shigella spp.* from stool or rectal swab specimens.

Confirmed case

A clinically compatible case with laboratory confirmation.

Probable case

A clinically compatible case without laboratory confirmation, but is epidemiologically linked to a confirmed case.

Botulism

(Last updated on 20 June 2016)

Description

There are four categories of botulism depending on the source of the infection. The site of toxin production is different for each of the forms but all share in common the flaccid paralysis that results from botulinum neurotoxin. Common symptoms are diplopia, blurred vision, and bulbar weakness. Symmetric paralysis may progress rapidly.

- **Foodborne Botulism:** Most botulism are foodborne transmitted through ingestion of foods that contain the botulism toxin, such as home-canned foods with low acid content like asparagus, green beans, beets and corn.
- **Infant Botulism:** An illness of infants (less than one year of age), characterized by constipation, poor feeding, and "failure to thrive" that may be followed by progressive weakness, impaired respiration, and death.
- **Wound Botulism:** Common symptoms are diplopia, blurred vision, and bulbar weakness. Symmetric paralysis may progress rapidly. The patient does not have suspected exposure to contaminated food but with a history of a fresh and contaminated wound during the 2 weeks before onset of symptoms.
- **Iatrogenic Botulism**: Following injection of botulinum toxin for therapeutic or cosmetic purposes, there is spread of botulinum toxin beyond injection site and the patient develops symptoms of botulism such as generalised weakness, dysphagia, aspiration pneumonia, flaccid paralysis, respiratory muscle paralysis, autonomic neuropathy etc.*
- **Botulism (Other):** A diagnosis by exclusion. The patient has no history of ingesting a suspect food or receiving botulinum toxin injection, is not an infant and has no wound.

Laboratory criteria

- **Foodborne Botulism**
  i. Detection of botulinum toxin in serum, stool, gastric contents (lavage or aspirate), patient's food remnants or food samples of the same batch; **OR**
  ii. Isolation of *Clostridium botulinum* from stool or gastric contents
- **Infant Botulism**

i. Detection of botulinum toxin in stool or serum; **OR**
ii. Isolation of *Clostridium botulinum* from stool

- **Wound Botulism**
  i. Detection of botulinum toxin in serum; **OR**
  ii. Isolation of *Clostridium botulinum* from wound
- **Iatrogenic Botulism**
  Detection of botulinum toxin in serum
- **Other Forms of Botulism**
  i. Detection of botulinum toxin in clinical specimen; **OR**
  ii. Isolation of *Clostridium botulinum* from clinical specimen.

Confirmed case

A clinically compatible case that is laboratory confirmed. Those who are clinically compatible and epidemiologically linked to a laboratory-confirmed foodborne botulism patient are also classified as confirmed cases for foodborne botulism.

Probable case

Foodborne Botulism: A clinically compatible case with an exposure history to suspicious food but does not meet the laboratory confirmation criteria.

Wound Botulism: A clinically compatible case with no suspected exposure to contaminated food and has history of a fresh, contaminated wound during the 2 weeks before onset of symptoms, but does not meet the laboratory confirmation criteria.

Iatrogenic Botulism: A clinically compatible case with no suspected exposure to contaminated food and has history of injecting botulinum toxin for therapeutic or cosmetic purposes, but does not meet the laboratory confirmation criteria.

*Commonly reported adverse drug reactions (ADR) after therapeutic dose include: fatigue, influenza-like-illness and headache. The following ADR which are localised to the site of injection could also occur: eyes discomfort, ptosis, eyelid oedema, increased or decreased lacrimation, blurred vision, injection site pain / bruising / swelling / reddening, muscle pain, muscle twitching, muscle weakness adjacent to the area of injection, dysphagia, dysphonia, gait disturbance, diarrhoea and urinary incontinence. To report ADR after injection, please report to the Drug Office of the Department of Health: http://www.drugoffice.gov.hk/eps/do/en/healthcare_providers/adr_reporting/index.html.

Chickenpox

(Last updated on 3 June 2013)

Description

An illness with acute onset of diffuse (generalized) papulovesicular rash without other apparent cause. In vaccinated persons who develop chickenpox more than 42 days after vaccination (breakthrough disease), the disease is usually mild with fewer than 50 skin lesions and shorter duration of illness. The rash may also be atypical in appearance (maculopapular with few or no vesicles).

Laboratory criteria

Any one of the following:

- Isolation of varicella zoster virus from a clinical specimen
- Demonstration of four-fold or greater rise in antibody titre
- Demonstration of viral antigen in vesicular scrapings using fluorescent-antibody staining
- Positive PCR for varicella zoster virus in clinical specimen

Confirmed case

A clinically compatible illness that is **EITHER**

- Laboratory confirmed; **OR**
- Epidemiologically linked to a confirmed case

Probable case

A case that meets the typical clinical description, is not laboratory confirmed and is not epidemiologically linked to a confirmed case; **OR**

A case with atypical clinical presentation, who has history of chickenpox vaccination more than 42 days before onset, and is **EITHER**

- Diagnosed as chickenpox by a clinician without laboratory confirmation; **OR**
- Epidemiologically linked to another probable case.

Chikungunya fever

(Last updated in Feb 2009, effective on 6 March, 2009)

Description

An acute febrile illness characterized by arthralgia (over wrist, ankle and knee), headache and rash (over trunk or limbs). Other symptoms include chills, myalgia, nausea and vomiting. Rarely the infection can result in meningoencephalitis.

Laboratory criteria

Any one of the following:

- Isolation of Chikungunya virus from clinical specimen
- Four-fold or greater rise in antibody titres to Chikungunya virus antigen in paired serum samples
- Detection of Chikungunya virus genomic sequences in clinical specimen by polymerase chain reaction

Confirmed case

A clinically compatible case that is laboratory confirmed.

Probable case

A clinically compatible case with a positive test for IgM antibody to Chikungunya virus antigens in a clinical specimen.

Cholera

(Last updated on 1 September 2014)

Description

An illness that is characterized by acute painless watery diarrhoea with or without vomiting.

Laboratory criteria

Isolation of toxigenic *Vibrio cholerae* O1 or *Vibrio cholerae* O139 from stool or rectal swab culture.

Confirmed case

A clinically compatible illness fulfilling the laboratory criterion.

Community-associated MRSA infection

(Last updated on 3 January 2017)

Description

Community-associated methicillin-resistant *Staphylococcus aureus* (CA-MRSA) infection is diagnosed based on the genetic composition of the MRSA isolated in a clinical specimen. As its name suggested, the infection is more often associated with persons who have no significant exposure to health care within the past one year. However, it is now established that some cases may have also acquired from the hospital setting.

For reporting purpose, persons with laboratory diagnosis of MRSA in outpatient settings or within 48 hours after admission to hospitals, and fulfilling the following clinical and epidemiological criteria shall be reported for further laboratory studies:

- Clinically presented with skin / soft tissue infections (e.g. infected eczema / boil / abscess); or more serious infections (e.g. blood stream infections or pneumonia); **AND**;
- An absence of permanent indwelling catheters or medical devices that pass through skin into the body; **AND**
- An absence of medical history in the previous one year of hospitalization, admission to nursing home, skilled nursing facility, or hospice, dialysis, or surgery.

Laboratory criteria

Isolation of MRSA strain from any clinical specimen with the following genetic characteristics:

- Positive for Panton-Valentine leucocidin (PVL) gene

Confirmed case

A clinically compatible case that is laboratory confirmed.

Coronavirus disease 2019 (COVID-19)

(With effect from 30 January 2023)

Clinical Description

Coronavirus disease 2019 (COVID-19) is caused by infection with the virus Severe Acute Respiratory Syndrome Coronavirus 2 (SARS-CoV-2).

Laboratory Criteria

Any one of the following:

- Detection of nucleic acid of SARS-CoV-2 in a clinical specimen (Ct value below 35); **OR**
- Detection of SARS-CoV-2 antigen in a clinical specimen by antigen-detecting rapid diagnostic tests

Reporting Criteria

From 30 January 2023 onwards, the Centre for Health Protection (CHP) will monitor severe and death cases, and only cases satisfying the following reporting criteria are required to be reported.

An individual fulfilling both the laboratory criteria **AND** any of the clinical criteria below should be reported to the CHP for further investigation as appropriate:

Clinical criteria for reporting of severe and death cases

Severe case: Presenting with severe pneumonia, sepsis, encephalopathy/encephalitis, myocarditis, multiple organ failure, shock or other severe complications of COVID-19 **AND** requiring the following interventions within 28 days of the first positive specimen collection date:

- Serious: oxygen supplement of 3 to 6 L/min
- Critical: intubation, extracorporeal membrane oxygenation (ECMO) or high flow oxygen with flow rate > 6 L/min

Death case: Died within 28 days of the first positive specimen collection date

Creutzfeldt-Jakob disease

(Last updated on 14 July 2008)

Creutzfeldt-Jakob disease (CJD) refers to a progressive neurodegenerative disorder which may be sporadic, iatrogenic or familial; and a new variant known as variant CJD (vCJD) was first identified in 1996. It is one of a group of diseases called Transmissible Spongiform Encephalopathies (TSEs) that affect humans and animals. The variant CJD is strongly linked to exposure, probably through food, to a TSE of cattle called Bovine Spongiform Encephalopathy (BSE), or the mad cow disease.

World Health Organization (WHO) classifies the family of CJD into four categories according to the exposure history and/or the characteristics of their neuropathological examination:

- **Sporadic CJD (sCJD)**
- **Iatrogenically transmitted CJD**
- **Genetic human TSEs**
- **Variant CJD**

Diagnosis is based on the fulfilment of a set of clinical and epidemiological criteria as well as findings of neurological studies. To align with WHO's case definitions, a CJD case will be classified as definite case, probable case, or possible case based on the relevant criteria.

Sporadic Creutzfeldt-Jakob disease

(Last updated on 14 July 2008)

Description

The characteristic clinical features include rapidly progressive dementia and myoclonus. The cause of sCJD remains unknown.

Definite case

- Neuropathological confirmation (spongiform encephalopathy in cerebral / cerebellar cortex / subcortical grey matter); and/or
- Confirmation of protease-resistant prion protein (immunocytochemistry or western blot) and/or
- Presence of scrapie-associated fibrils

Probable case

A probable case is diagnosed in the absence of an alternative diagnosis from routine investigation

- Progressive dementia and
- At least 2 of the following 4 clinical features:
  - myoclonus
  - visual or cerebellar disturbance
  - pyramidal/extrapyramidal dysfunction
  - akinetic mutism and
- A typical EEG, whatever the clinical duration of the disease, and/or
- A positive 14-3-3 assay for CSF and a clinical duration to death < 2 years

Possible case

- Progressive dementia and
- EEG atypical or not known and
- Duration < 2 years and
- At least 2 of the following clinical features:
  - myoclonus
  - visual or cerebellar disturbance
  - pyramidal / extrapyramidal dysfunction
  - akinetic mutism

Iatrogenically transmitted Creutzfeldt-Jakob disease

(Last updated on 27 September 2006)

Description

CJD in a recipient of human pituitary-derived growth hormone or gonadotrophin; or in a patient with a recognized exposure risk, e.g. neurosurgery, dura mater grafts and corneal transplantation.

Definite case

Definite CJD with a recognized iatrogenic risk.

Probable case

- Progressive cerebellar syndrome in human pituitary hormone recipients; OR
- Probable CJD with recognized iatrogenic risk

Genetic human TSEs

(Last updated on 27 September 2006)

Description

Genetic human TSEs include familial CJD, Gerstmann-Sträussler-Scheinker disease and fatal familial insomnia and are inherited as an autosomal dominant trait. The clinical spectrum depends upon the causative prion protein (PrP) gene mutations and is extremely diverse.

- **Familial CJD:** resembles sCJD
- **Gerstmann-Sträussler-Scheinker disease (GSS):** characterized by progressive ataxia, dysarthria, personality change and cognitive decline
- **Fatal familial insomnia (FFI):** characterized by insomnia, dysautonomia and motor deficits

Definite case

Definite TSE with a recognized pathogenic PrP mutation plus definite or probable TSE in a first-degree relative.

Probable case

- Probable TSE plus definite or probable TSE in a first-degree relative, **OR**
- Progressive neuropsychiatric disorder plus disease-specific mutation.

Variant Creutzfeldt-Jakob disease

(Last updated on 14 July 2008)

Description

Compared to sCJD, vCJD affects younger patients (mean age 28 years at onset, versus 65 for sCJD) and has a relatively longer duration of illness (mean 15 months, versus 8 months for sCJD). vCJD tends to present with psychiatric or sensory disturbances and with a relatively slower progression, whereas sCJD typically presents with rapidly progressive neurological symptoms. Moreover, vCJD may also be associated with specific neuropathological changes (spongioform change and extensive PrP deposition with florid plagues, throughout the cerebrum and cerebellum).

Diagnosis of vCJD depends on an assessment of the patient's presentation according to the following four sets of features:

I
- A Progressive neuropsychiatric disorder
- B Duration of illness > 6 months
- C Routine investigations do not suggest an alternative diagnosis
- D No history of potential iatrogenic exposure
- E No evidence of a familial form of TSE

II
- A Early psychiatric symptoms (depression, anxiety, apathy, withdrawal, delusions).
- B Persistent painful sensory symptoms (both frank pain and/or dysaesthesia)
- C Ataxia
- D Myoclonus or chorea or dystonia
- E Dementia

III
- A EEG does not show the typical appearance of sporadic CJD (or no EEG performed); A typical EEG appearance of sporadic CJD refers to generalized triphasic periodic complexes at approximately one per second
- B MRI brain scan shows bilateral symmetrical pulvinar high signal (relative one as compared to the signal intensity of other deep grey matter nuclei and cortical grey matter.)

IV
- A Positive tonsil biopsy. (Tonsil biopsy is not recommended routinely, or in cases with EEG appearances typical of sporadic CJD, but may be useful in

suspect cases in which the clinical features are compatible with vCJD and where MRI does not show bilateral pulvinar high signal).

Definite case:

A definite case of vCJD is a patient fulfilling the criteria:

- I A and neuropathological confirmation of vCJD (i.e., spongioform change and extensive PrP deposition with florid plagues, throughout the cerebrum and cerebellum)

Probable case:

A probable case of vCJD is a patient fulfilling the criteria:

- I and 4/5 of II and III A and III B; **OR**
- I and IV A

Possible case:

A possible case of vCJD is a patient fulfilling the criteria:

- I and 4/5 of II and III A

Dengue fever

(Last updated on 25 June 2019)

Clinical Description

Dengue fever is an illness characterised by fever, headache, retro-orbital pain, muscle and joint pains, nausea, vomiting, swollen glands or rash. Severe dengue is a complication of dengue fever. It may present with shock, severe bleeding, impaired liver function, impaired consciousness, etc.

Laboratory Criteria

Any one of the following:

- Detection of nucleic acid of dengue virus in a clinical specimen;
- Detection of dengue virus antigen in a clinical specimen;
- Isolation of dengue virus from a clinical specimen; OR
- Seroconversion or a four-fold or greater increase in antibody titre to dengue virus in paired serum specimens.

Case Classification

Confirmed case

A clinically compatible case that fulfils any of the above laboratory criteria.

Probable case

A clinically compatible case with any of the following supportive laboratory results:

- Detection of IgM antibody to dengue virus in a serum specimen; OR
- Antibody titre of ≥ 1280 to dengue virus in a single serum specimen.

Diphtheria

(Last updated on 9 November 2007)

Description

An upper respiratory tract illness characterized by sore throat, low-grade fever, and adherent membrane of the tonsil(s), pharynx, and/or nose without other apparent cause.

Laboratory criteria

Any one of the following:

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

Confirmed case

A clinically compatible illness that is **EITHER**

- Laboratory confirmed; **OR**
- Epidemiologically linked to a confirmed case

Enterovirus 71 infection

(Last updated on 25 July 2019)

Clinical Description

Enterovirus (EV) 71 infection most commonly presents with hand, foot and mouth disease (HFMD) or herpangina. HFMD is characterised by maculopapular rash or vesicular lesions occurring on the palms, soles, and other parts of the body such as buttocks and thighs. Vesicular lesions and ulcers may also be found in the oral cavity. In herpangina, patients have only oral lesions without rash on hands or feet. EV71 infection may be associated with severe complications such as aseptic meningitis, encephalitis, acute flaccid paralysis and myocarditis.

Clinical Criteria of Severe Cases (for reporting of suspected cases before availability of laboratory result)

For enhanced surveillance of severe cases of EV71 infection, an individual fulfilling the following ***Clinical Criteria*** should be reported to CHP for further investigation before the availability of laboratory result for EV71.

A person presenting with the following condition:

1. HFMD or herpangina; AND
2. Any one of the following complications:
   - Meningitis; OR
   - Encephalitis; OR
   - Acute flaccid paralysis; OR
   - Other central nervous system complications (e.g. cerebellar ataxia); OR
   - Myocarditis; OR
   - Pulmonary oedema or haemorrhage.

Laboratory Criteria

Any one of the following:

- Detection of nucleic acid of EV71 in a clinical specimen; OR
- Isolation of EV71 from a clinical specimen.

Case Classification

Confirmed case

A clinically compatible case* that fulfils any of the above laboratory criteria.
(*Note: Fulfilment of clinical criteria of severe cases is not required.)

Food poisoning outbreak

(Last updated on 20 June 2008)

Description

An incident in which two or more persons experience a similar illness after ingestion of a common food, and epidemiological analysis implicates the food as the source of the illness. (Exception: one person having chemical poisoning or biochemical poisoning constitutes an outbreak.)

Laboratory criteria

Food poisoning organism or toxin detected from patient's clinical specimens or epidemiologically implicated food specimens (e.g. food remnant or sample from the same batch of food), provided that the patient's clinical picture is compatible with the presentation of the causative agent. This confirms the diagnosis of food-borne illness.

[A positive microbiological sample from a food handler in itself should not normally lead to classification of an outbreak as "confirmed", unless there is other strong supportive evidence to substantiate such classification.]

Confirmed outbreak

A clinically and epidemiologically compatible illness with **EITHER**

- Laboratory criteria of causative agent; **OR**
- Epidemiological linkage to another confirmed outbreak

Probable outbreak

A clinically and epidemiologically compatible illness without laboratory confirmation.

Haemophilus influenzae type b infection (invasive)

(Last updated on 9 November 2007)

Description

Invasive disease caused by *H. influenzae* type b (Hib) can produce several clinical syndromes including meningitis, bacteraemic pneumonia, septicaemia, epiglottitis, septic arthritis and osteomyelitis.

Laboratory criteria

Any one of the following:

- Isolation of *H. influenzae* type b from a normally sterile site (e.g. blood or cerebrospinal fluid (CSF) or, less commonly, joint, pleural, or pericardial fluid)
- Detection of Hib antigen from CSF in a patient with laboratory evidence of bacterial meningitis

Confirmed case

A clinically compatible case that is laboratory confirmed.

Hantavirus infection

(Last updated on 25 July 2019)

Clinical Description

An acute zoonotic febrile illness characterised by increased vascular permeability, hypotensive shock or haemorrhagic manifestations. There are two distinct clinical syndromes each associated with specific groups of hantaviruses.

- **Haemorrhagic fever with renal syndrome (HFRS):** Symptoms of HFRS usually develop within 1 to 2 weeks after exposure to infectious material, but in rare cases, they may take up to 8 weeks to develop. Initial symptoms begin suddenly and include intense headaches, back and abdominal pain, fever, chills, nausea, and blurred vision. Individuals may have flushing of the face, inflammation or redness of the eyes, or a rash. The disease progress to hypotension, acute shock, vascular leakage, and acute renal failure, which can cause severe fluid overload.
- **Hantavirus pulmonary syndrome (HPS):** A febrile illness characterised by bilateral diffuse interstitial oedema that may radiographically resemble acute respiratory distress syndrome. Respiratory compromise requiring supplemental oxygen may develop within 72 hours of hospitalisation and occur in a previously healthy person. It may also be presented as a fatal unexplained respiratory illness characterised by non-cardiogenic pulmonary oedema identified during an autopsy examination.

Laboratory Criteria

Any one of the following:

- Detection of nucleic acid of hantavirus in a clinical specimen;
- Detection of hantavirus antigen in a clinical specimen;
- Detection of IgM antibody to hantavirus in a serum specimen; OR
- Seroconversion or a four-fold or greater increase in antibody titre to hantavirus in paired serum specimens.

Case Classification

Confirmed case

A clinically compatible case that fulfils any of the above laboratory criteria.

Invasive pneumococcal disease

(Last updated on 4 January 2016)

Description

Invasive pneumococcal disease is a group of severe infectious diseases caused by the bacterium *Streptococcus pneumoniae*. The disease may present in various forms such as meningitis, sepsis or severe pneumonia and may be life threatening. The disease can occur in persons of any age but the mortality is substantially higher for people at extremes of age (children under 2 years of age and elders aged 65 years or above).

Laboratory criteria

Any one of the following:

- Isolation of *Streptococcus pneumoniae* from a normally sterile site (e.g. blood, cerebrospinal fluid (CSF), joint, pleural or pericardial fluid) ; or
- Detection of *Streptococcus pneumoniae* DNA from a normally sterile site.

Confirmed case

A clinically compatible case that is laboratory confirmed.

Note: Please report **confirmed case** of invasive pneumococcal disease by filling in the Invasive pneumococcal disease (IPD) case report form which is **available on the following website:**
http://www.chp.gov.hk/files/pdf/ipd_case_report_form.pdf

Japanese encephalitis

(Last updated on 25 July 2019)

Clinical Description

Japanese encephalitis is a febrile illness of variable severity. A clinical case of Japanese encephalitis usually begins with non-specific prodromal symptoms lasting several days, followed by acute onset of high fever, severe headache, vomiting, photophobia, drowsiness, meningism and convulsion.

Laboratory Criteria

Any one of the following:

- Detection of nucleic acid of Japanese encephalitis virus in a clinical specimen;
- Detection of IgM antibody to Japanese encephalitis virus in a cerebrospinal fluid specimen; OR
- Seroconversion or a four-fold or greater increase in antibody titre to Japanese encephalitis virus in paired serum specimens.

Case Classification

Confirmed case

A clinically compatible case that fulfils any of the above laboratory criteria.

Probable case

A clinically compatible case with any of the following supportive laboratory results:

- Detection of IgM antibody to Japanese encephalitis virus, in the absence of IgM antibody to other flaviviruses, in a serum specimen; OR
- Antibody titre of ≥ 1:160 to Japanese encephalitis virus in a single serum specimen.

Legionnaires' disease

(Last updated on 25 July 2019)

Clinical Description

Legionnaires' disease is characterised by fever, malaise, myalgia, cough, shortness of breath and pneumonia, and some patients may also have abdominal pain and diarrhoea. In severe cases, neurological symptoms (e.g. confusion) and respiratory failure may appear and some may cause death. It is caused by *Legionella pneumophila* and other *Legionella* species. *Legionella pneumophila* serogroup 1 is most commonly associated with the disease.

Laboratory Criteria

Any one of the following:

- Detection of nucleic acid of *Legionella* species in a respiratory specimen;
- Detection of *Legionella pneumophila* antigen in urine;
- Isolation of *Legionella* species from respiratory specimens or other clinical samples from normally sterile sites; OR
- Four-fold or greater increase in antibody titre to *Legionella pneumophila* in paired serum specimens.

Case Classification

Confirmed case

A clinically compatible case that fulfils any of the above laboratory criteria.

Probable case

A clinically compatible case with any of the following supportive laboratory results:

- Detection of *Legionella pneumophila* in a respiratory specimen by the direct fluorescent antibody method; OR
- Antibody titre of ≥ 128 to *Legionella pneumophila* in a single serum specimen.

Leprosy

(Last updated on 15 January 2005)

Description

Leprosy is a chronic granulomatous infection, primarily affecting skin and peripheral nerves, caused by *Mycobacterium leprae*. Clinical forms of leprosy represent a spectrum reflecting the cellular immune response and reaction to *M. leprae*. The clinical diagnosis of leprosy is based on the following cardinal signs: anaesthesia, thickened nerves and typical skin lesions.

Laboratory criteria

- Multibacillary leprosy: demonstration of acid-fast bacilli in skin or dermal nerve, obtained either by skin biopsy, slit skin smear examination or nerve biopsy of a lepromatous lesion.

- Paucibacillary leprosy: characteristic presence of epithelioid cell granulomas within or around peripheral nerves.

Confirmed case

A person with at least two cardinal signs and laboratory confirmed.

Probable case

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

Leptospirosis

(Last updated on 25 June 2019)

Clinical Description

Leptospirosis can present with various clinical manifestations. Common features include an acute febrile illness, headache, myalgia, and conjunctival suffusion. Other manifestations that may be present include meningeal irritation, hepatorenal failure, jaundice, pulmonary involvement with or without haemorrhage, myocarditis, and skin rash. Other common symptoms include nausea, vomiting, abdominal pain, diarrhoea, and arthralgia.

Laboratory Criteria

Any one of the following:

- Detection of nucleic acid of *Leptospira* species in a clinical specimen;
- Isolation of *Leptospira* species from a clinical specimen; OR
- Seroconversion or a four-fold or greater increase in antibody titre to *Leptospira* in paired serum specimens by microscopic agglutination test.

Case Classification

Confirmed case

A clinically compatible case that EITHER:

- fulfils any of the above laboratory criteria; OR
- is epidemiologically linked to a confirmed case and with detection of antibody titre of ≥ 1600 to *Leptospira* by microscopic agglutination test in a serum specimen.

Probable case

A clinically compatible case that is epidemiologically linked to a confirmed case and with any of the following supportive laboratory results:

- Antibody titre of ≥ 400 but < 1600 to *Leptospira* by microscopic agglutination test in a serum specimen; OR

- Detection of IgM antibody to *Leptospira* in an acute phase serum specimen.

Listeriosis

(Last updated on 27 September 2006)

Description

An invasive disease caused by *Listeria monocytogenes* manifests most commonly as meningitis or septicaemia; infection during pregnancy may result in fetal loss through miscarriage or stillbirth, or neonatal meningitis or septicaemia.

Laboratory criteria

Any one of the following:

- Isolation of *Listeria monocytogenes* from a normally sterile site (e.g. blood or cerebrospinal fluid or, less commonly, joint, pleural, or pericardial fluid, or placental or meconium or fetal tissue)
- During a common source outbreak, isolation of *Listeria monocytogenes* from stool

Confirmed case

A clinically compatible case that is laboratory confirmed.

Malaria

(Last updated on 16 August 2022)

Description

An illness with variable signs and symptoms, but most patients experience fever. Other common symptoms include headache, back pain, chills, sweat, myalgia, nausea, vomiting.

Laboratory criteria

Detection of:

- DNA of *Plasmodium* species in a sample of peripheral blood, OR
- Malaria parasites in thick or thin peripheral blood films.

Confirmed case

A clinically compatible illness with laboratory confirmation.

Measles

(Last updated on 25 June 2019)

Clinical Description

Measles usually present initially with fever, cough, runny nose, red eyes and white spots inside the mouth. This is followed 3 to 7 days later by a red blotchy skin rash, which usually spreads from face to the rest of the body. In severe cases, lung, gut and brain can get involved and lead to serious consequences or even death.

Clinical Criteria

An illness characterised by all the following:

- a generalised rash lasting ≥ 3 days,
- a temperature ≥ 38.3 ℃ (101℉); AND
- at least one of cough, coryza or conjunctivitis.

Laboratory Criteria

Any one of the following:

- Detection of nucleic acid of measles virus in a clinical specimen;
- Isolation of measles virus from a clinical specimen;
- Seroconversion or a four-fold or greater increase in antibody titre to measles virus in paired serum specimens; OR
- Detection of IgM antibody to measles virus in a serum specimen.

Case Classification

Confirmed case

- A case* that fulfils any of the above laboratory criteria; OR
- A case that meets the clinical criteria AND is epidemiologically linked to a confirmed case.

(*Note: A case suspected to have measles by healthcare professional that fulfils any of the above laboratory criteria is a confirmed case irrespective of the fulfilment of the

clinical criteria.)

Probable case

A case that meets the clinical criteria AND has no or non-confirmatory serological or virological testing AND is not epidemiologically linked to a confirmed case.

Melioidosis

(With effect from 11 November 2022)

Melioidosis is caused by the bacterium *Burkholderia pseudomallei*. Melioidosis may present with localised infection (such as cutaneous abscess), pneumonia, meningoencephalitis, sepsis, or chronic suppurative infection. Depending on the site of infection, common symptoms include fever, headache, localised pain or swelling, ulceration, chest pain, cough, haemoptysis, and swelling of regional lymph nodes. The incubation period varies, usually from 2 to 4 weeks, but can range from 1 day to few years. Mortality rate ranges from around 40 to 75%.

Laboratory criteria

Any one of the following:

- Isolation of *Burkholderia pseudomallei* in culture from a clinical specimen (such as blood, sputum, urine, pus, throat swab, wound swab, abscess swab, joint fluid, tissue, etc.);
- Detection of *Burkholderia pseudomallei* in a clinical specimen by polymerase chain reaction (PCR).

Case Classification

Confirmed case

A clinically compatible illness that is laboratory confirmed.

Reporting Criteria

Only confirmed cases should be notified.

Meningococcal infection (invasive)

(Last updated on 1 January 2009)

Description

An acute bacterial disease, characterized by sudden onset of fever, intense headache, nausea and often vomiting, stiff neck and, frequently, a petechial rash with pink macules or, very rarely, vesicles. Delirium and coma often appear; occasional fulminant cases exhibit sudden prostration, ecchymoses and shock at onset. Other forms of invasive disease (e.g. septic arthritis) are less common.

Laboratory criteria

Any one of the following:

- Isolation of *Neisseria meningitidis* from a normally sterile site such as in blood or CSF
- A positive antigen test for *Neisseria meningitidis* in a normally sterile site
- A positive nucleic acid test (e.g. polymerase chain reaction) for *Neisseria meningitidis* in a normally sterile site

Confirmed case

A clinically compatible case that is laboratory confirmed.

Probable case

A clinically compatible illness with Gram-negative diplococci identified in any sterile fluids such as CSF.

Middle East Respiratory Syndrome

(Last updated on 20 May 2019)

An individual fulfilling both the ***Clinical Criteria*** **AND** ***Epidemiological Criteria*** should be reported to CHP for further investigation.

Clinical Criteria

- A person with fever AND symptoms of respiratory illness not explained by any other aetiology; OR
- A person with clinical feature(s) of lower respiratory tract infection not explained by any other aetiology; OR
- An immunocompromised patient with diarrhoea not explained by any other aetiology

AND

Epidemiological Criteria

One of the following within 2-14 days before onset of illness

- close contact* with a confirmed or probable case of Middle East Respiratory Syndrome while the case was ill; OR
- residence in or history of travel[#] to the Arabian Peninsula or neighbouring countries (i.e., Bahrain, Iran, Iraq, Israel, Jordan, Saudi Arabia, Kuwait, Lebanon, Oman, Qatar, Palestine, Syria, United Arab Emirates, and Yemen)

* **Close contact is defined as:**

- Anyone who provided care for the patient, including a health care worker or family member, or who had other similarly close physical contact; OR
- Anyone who stayed at the same place (e.g. lived with, visited) as a probable or confirmed case while the case was ill.

[#] **Transiting** through an international airport (<24 hours stay, remaining within the airport) in the Arabian Peninsula or neighbouring countries only is not regarded as a history of travel.

Laboratory Criteria

Any one of the following:

- Detection of nucleic acid of MERS Coronavirus (MERS-CoV) in a clinical specimen; OR
- Isolation of MERS-CoV from a clinical specimen; OR
- Seroconversion or four-fold or greater increase in antibody titre to MERS-CoV in paired serum specimens.

Case Classification

Confirmed case

A person fulfilling the above laboratory criteria.

Probable case

A clinically compatible case with no conclusive laboratory results for MERS-CoV infection, who is a close contact of a confirmed case.

The number of cases of MERS in affected areas (Middle East) is regularly updated and is available on the CHP website (http://www.chp.gov.hk/files/pdf/distribution_of_mers_cases_en.pdf).

Mpox*

(Last updated on 27 July 2023)

* Corresponding to monkeypox as specified in Schedule 1 under Cap. 599.

Clinical Description

Mpox (also known as monkeypox) is a zoonosis caused by monkeypox virus. The symptoms are similar to those of smallpox, but in milder forms. The first few days after infection with mpox are characterised by fever, intense headache, myalgia and lymphadenopathy. Severe swollen lymph nodes before the appearance of rash could be a distinctive feature of mpox. Lesions in mouth and body appear about 1 to 3 days after onset of fever. The lesions progress from maculopapules to vesicles, pustules and followed by crusts within a period of 10 days to two weeks and the lesions typically progress simultaneously at all parts of the body. Mpox is usually a self-limited disease with symptoms lasting from 14 to 21 days. The clinical presentation of mpox occurring in outbreaks outside Africa was generally that of a self-limited disease, often atypical to cases described in previous outbreaks, with rash lesions localized to the genital, perineal/perianal or peri-oral area, that often do not spread further, and appears prior to the development of lymphadenopathy, fever, malaise, and pain associated with lesions.

Clinical Criteria

(a) Unexplained acute rash or acute skin lesions **plus** one of the following signs / symptoms:

- Acute onset of fever (>38 °C);
- Chills, headache, myalgia, back pain, joint pain or profound weakness (asthenia)
- New lymphadenopathy

(b) A case may be excluded if an alternative diagnosis can fully explain the illness[1].

[1] According to WHO, common causes of acute rash include varicella zoster, herpes zoster, measles, herpes simplex, bacterial skin infections, disseminated gonococcus infection, primary or secondary syphilis, chancroid, lymphogranuloma venereum, granuloma inguinale, molluscum contagiosum, allergic reaction (e.g. to plants); and any other locally relevant common causes of papular or vesicular rash. According to the Centers for Disease Control and Prevention of the United States, the characteristic rash associated with mpox lesions involve the following: deep-seated and well-circumscribed lesions, often with central umbilication; and lesion progression through specific sequential stages (macules, papules, vesicles, pustules, and scabs). However, the rash can be confused with other diseases that are more commonly encountered in clinical practice (e.g., secondary syphilis, herpes, and varicella zoster). Historically, there had been sporadic reports of patients co-infected with mpox virus and other infectious agents (e.g., varicella zoster, syphilis)..

Epidemiologic Criteria

Fulfilling (a), (b), (c) or (d) within 21 days of illness onset:

(a) History of travel to country/area previously known as mpox endemic in Africa[2] as listed in the "Countries/areas previously known as mpox endemic in Africa" at: https://www.chp.gov.hk/files/pdf/list_of_affected_countries.pdf

(b) Had contact with a person or people who have a similar appearing rash or received a diagnosis of confirmed or probable mpox;

(c) Man who regularly has close or intimate in-person contact with other men;

(d) Contact with a dead or live wild animal or exotic pet that is an African endemic species or used a product derived from such animals (e.g., game meat, creams, lotions, powders, etc).

Laboratory criteria

Any one of the following:

- Isolation of monkeypox virus in culture from a clinical specimen; **OR**
- Detection of unique sequences of viral DNA either by real-time polymerase chain reaction (PCR) and/or sequencing from a clinical specimen.

Case Classification

Suspected case

A case that meets **both** the clinical and epidemiologic criteria.

Confirmed case

A clinically compatible illness that is laboratory confirmed.

[2] According to WHO, before this multi-country outbreak since May 2022, mpox endemic countries are: Benin, Cameroon, the Central African Republic, the Democratic Republic of the Congo, Gabon, Ghana, Côte d'Ivoire, Liberia, Nigeria, the Republic of the Congo, Sierra Leone and South Sudan.

Mumps

(Last updated on 20 June 2008)

Description

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

Laboratory criteria

Any one of the following:

- Positive serologic test for mumps IgM antibody
- ≥ four-fold increase in mumps antibody titre
- Isolation of mumps virus from a clinical specimen, including throat washings, saliva, urine and cerebrospinal fluid
- PCR positive for mumps virus in clinical specimen

Confirmed case

A clinically compatible illness that is **EITHER**

- Laboratory confirmed; **OR**
- Epidemiologically linked to a confirmed case

Probable case

A case that meets the clinical description **AND** has no or non-contributory serologic or virologic testing **AND** is not epidemiologically linked to a confirmed case.

Novel influenza A infection

(Last updated on 5 February 2016)

Description

The current seasonal influenza A viruses circulating among humans belong to the subtypes H1 and H3. Other subtypes of influenza A viruses and other variants of the H1 and H3 subtypes have been reported to cause human infections sporadically without sustained human-to-human transmission. Such "novel" subtypes primarily affect animal species especially avian species but occasionally cross the species barrier and cause human infections with varying clinical severity. These viruses are different from the seasonal influenza viruses and the human population generally has no immunity against them.

For examples, influenza A (H5N1) has caused human infections in more than 15 countries since 1997 and influenza A (H7N9) has caused human infections in mainland China since 2013. Most of the infected persons presented with severe diseases. Influenza A (H7N3) and influenza A (H7N7) have caused human acute conjunctivitis and respiratory infection, while influenza A (H9N2) has caused mild respiratory infections in the affected humans. In addition, sporadic human infections with influenza A (H6N1) and influenza A (H10N8) were first reported in 2013 and influenza A (H5N6) since 2014. They are also considered as novel influenza A infections. Infections with all the above subtypes usually occur after exposure to poultry harbouring the viruses or environments contaminated with the viruses.

Human infections with influenza A (H1N1) variant [A(H1N1)v], A(H3N2)v and A(H1N2)v viruses determined to be of swine origin have been occasionally reported. In the United States, increasing number of infections with A(H3N2)v with the influenza A(H1N1)pdm09 virus M gene have been reported since July 2011, mostly in people with direct exposure to pigs (e.g. workers in the swine industry, attendants to agricultural fairs). Most cases presented with symptoms and signs of influenza (fever, cough, runny nose, sore throat, muscle aches). Limited human-to-human transmission of A(H3N2)v had been identified but sustained and efficient community transmission of A(H3N2)v has not yet been detected.

Influenza A (H2N2) was once a seasonal influenza virus and caused annual epidemics from late 1950's to 1968 when it vanished after the emergence of seasonal influenza A (H3N2) viruses that caused the pandemic from 1968 to 1969. Since persons born

after 1968 have minimal immunity to influenza A (H2N2), influenza A (H2) is considered as a novel influenza A virus. On the other hand, an influenza A (H1N1) virus which had not been seen in humans before, emerged, spread across the world and caused the 2009 H1N1 pandemic. This virus, influenza A(H1N1)pdm09, once a novel influenza A virus, is now established in humans as a seasonal influenza virus.

Confirmatory Laboratory Tests

Any one of the following:

- Positive viral culture for a novel influenza A virus,
- Positive molecular testing for a novel influenza A virus, or
- A four-fold or higher rise in a novel influenza A virus specific antibody titre in paired serum samples.

Confirmed case

A clinically compatible illness with any of the positive confirmatory laboratory tests listed above.

Reporting criteria for human novel influenza A infection

(Last updated on 1 May 2015)

An individual fulfilling either one of the following should be reported to CHP for further investigation:

1) Clinical Criteria **AND** Epidemiological Criteria - **only** apply for cases suspected to be suffering from influenza A (H5), influenza A (H7N9) or variant influenza A (H3N2) infections (please refer to respective reporting criteria appended) and ***do not*** apply for non-H5/H7/vH3 cases;

OR

2) Laboratory Criteria – apply for **all** novel influenza A infections -

- Detection of an influenza A virus that cannot be subtyped as a human seasonal influenza A (H1) or (H3) virus

Variant Influenza A (H3N2)

(Last updated on 17 August 2012)

Clinical Criteria

- A person with acute respiratory illness, characterized by fever (temperature >38ºC) and cough and/or sore throat, OR
- A person with pneumonia, OR
- A person died of unexplained acute respiratory illness.

Epidemiological Criteria

History of recent contact (7 days before onset of illness) with

- swine in the United States or areas with known variant influenza A (H3N2); OR
- patient with variant influenza A (H3N2).

Influenza A (H5) and Influenza A (H7N9)

(Last updated on 20April 2016)

Clinical Criteria

- A person with acute respiratory illness, characterized by fever (temperature >38ºC) and cough and/or sore throat, OR
- A person with pneumonia, OR
- A person died of unexplained acute respiratory illness.

Epidemiological Criteria

Influenza A (H5)	**Influenza A (H7N9)**
One or more of the following exposures in the 7 days prior to symptom onset:	One or more of the following exposures in the 10 days prior to symptom onset:
• contact with a human case of influenza A (H5)/(H7N9); **OR** • contact with poultry or wild birds or their remains, or visit to environments contaminated by their faeces (e.g. markets with live poultry) in countries/areas with documented avian influenza A (H5)/(H7N9) infection in birds and/or humans in the recent 6 months (see List of affected areas); **OR** • consumption of raw or undercooked poultry products in countries/areas with documented avian influenza A (H5)/(H7N9) infection in poultry and/or humans in the recent 6 months (see List of affected areas); **OR** • close contact with a confirmed influenza A (H5)/(H7N9) infected animal other than poultry or wild birds; **OR** • worked in a laboratory that is processing samples from persons or animals that are suspected from avian influenza infection; **OR** • worked in the live poultry industry.	

The latest list of affected areas is regularly updated and is available on the website of the Centre for Health Protection (*http://www.chp.gov.hk/files/pdf/global_statistics_avian_influenza_e.pdf).*

Paratyphoid fever

(Last updated on 1 May 2015)

Description

Patient with paratyphoid fever usually presents with a similar but often milder clinical picture than typhoid fever. Symptoms may include fever, headache, malaise, cough, bradycardia, splenomegaly or rose spot on the trunk with or without gastrointestinal symptoms.

Laboratory criteria

- *Salmonella* Paratyphi (excluding *S*. Paratyphi B variant Java) isolated from any clinical specimen.
- Widal test result of a four-fold or greater rise in the titre of *Salmonella* Paratyphi H antibody in paired sera

Confirmed case

A clinically compatible case with laboratory confirmation.

Probable case

A clinically compatible case that EITHER

- Has Widal test result of titre of *Salmonella* Paratyphi H antibody of 200 or greater OR
- Epidemiologically linked to a confirmed case.

Plague

(Last updated on 7 September 2023)

Description

Plague is characterized by fever, chills, headache, malaise, prostration, and leukocytosis that manifests in one or more of the following clinical forms:

- **Bubonic plague:** Regional lymphadenitis
- **Septicemic plague:** Septicemia without an evident bubo
- **Pneumonic plague:** Plague pneumonia
    i. **Primary pneumonic plague:** resulting from inhalation of infectious droplets
    ii. **Secondary pneumonic plague**: Plague pneumonia, resulting from hematogenous spread in bubonic or septicemic cases
- **Pharyngeal plague:** Pharyngitis and cervical lymphadenitis resulting from exposure to larger infectious droplets or ingestion of infected tissues

Laboratory criteria

Any one of the following:

- Isolation of *Yersinia pestis* from a clinical specimen
- Four-fold or greater change in serum antibody titre to *Y. pestis* fraction 1 (F1) antigen
- Detection of nucleic acid of *Y. pestis* in a clinical specimen by PCR

Confirmed case

A clinically compatible illness with confirmatory laboratory results.

Probable case

A clinically compatible illness with presumptive laboratory results:

- Elevated serum antibody titre to *Y. pestis* F1 antigen in a patient with no history of plague vaccination; **OR**
- Detection of *Y. pestis* F1 antigen in a clinical specimen by fluorescent assay

Psittacosis

(Last updated on 25 July 2019)

Clinical Description

Psittacosis is an illness characterised by fever, chills, headache, cough (usually dry cough) and myalgia, with pneumonia often evident on chest X-ray.

Laboratory Criteria

Any one of the following:

- Detection of nucleic acid of *Chlamydia psittaci* in a respiratory specimen;
- Isolation of *Chlamydia psittaci* from a respiratory specimen;
- A four-fold or greater increase in antibody titre to *Chlamydia psittaci* in paired serum specimens; OR
- Detection of IgM antibody to *Chlamydia psittaci* in a serum specimen.

Case Classification

Confirmed case

A clinically compatible case that fulfils any of the above laboratory criteria.

Probable case

A clinically compatible case that is EITHER:

- epidemiologically linked to a confirmed case; OR
- with antibody titre of ≥ 1:32 to *Chlamydia psittaci* in a serum specimen.

Q fever

(Last updated on 2 December 2019)

Clinical Description

Q fever (Query fever) is a zoonotic infection caused by the bacterium *Coxiella burnetii*. It is usually characterised by fever, rigors, myalgia, malaise and retrobulbar headache. The infection may result in severe conditions including acute hepatitis, pneumonia and meningoencephalitis. Asymptomatic infections may also occur.

Potentially fatal endocarditis may develop months to years after acute infection, particularly in persons with underlying valvular heart disease. A chronic fatigue-like syndrome has also been reported in some Q fever patients.

Laboratory Criteria

Any one of the following:

- Detection of nucleic acid of *Coxiella burnetti* in a clinical specimen;
- Detection of *Coxiella burnetti* antigen in a clinical specimen;
- Isolation of *Coxiella burnetii* from a clinical specimen;
- Seroconversion or a four-fold or greater increase in IgG antibody titre to *Coxiella burnetti* phase II antigen in paired serum specimens ideally taken 3-6 weeks apart; or IgM antibody titre of ≥ 50 and IgG antibody titre of ≥ 200 to *Coxiella burnetti* phase II antigen in a serum specimen for acute Q fever; OR
- IgG antibody titre of ≥ 1600 to *Coxiella burnetti* phase I antigen in a serum specimen for chronic Q fever.

Case Classification

Confirmed case

A case that fulfils any of the above laboratory criteria and is EITHER

- clinically compatible; OR
- epidemiologically linked to a confirmed case.

Probable case

A case with supportive serology result (IgG antibody titre of ≥ 200 to *Coxiella burnetti* in a single serum specimen) and is EITHER:

- clinically compatible; OR
- epidemiologically linked to a confirmed case.

Rabies

(Last updated on 24 February 2010)

Description

Rabies is an acute encephalomyelitis that almost always progresses to coma or death within 10 days of the first symptoms. Onset with headache, fever, malaise and sensory changes referred to the bite wound. The disease progresses to paresis or paralysis, spasm of muscles of deglutition on attempts to swallow leads to fear of water (hydrophobia), delirium and convulsion. Death is often due to respiratory paralysis.

Laboratory criteria

Any of the following:

- Detection by direct fluorescent antibody (IFA) of viral antigens in a clinical specimen (preferably the brain or the nerves surrounding hair follicles in the nape of the neck)
- Detection of Negri bodies in the histology of brain tissue
- Positive PCR in brain tissue specimens
- Isolation (in cell culture or in a laboratory animal) of rabies virus from saliva, cerebrospinal fluid (CSF), or central nervous system tissue

Confirmed case

A clinically compatible illness that is laboratory confirmed.

Probable case

A clinically compatible illness plus history of contact with a suspected rabid animal or epidemiologically linked to a confirmed case.

Relapsing fever

(Last updated on 15 January 2005)

Description

An illness with alternating febrile period and petechial rashes. Signs and symptoms including period of fever lasting 2 - 9 days alternate with afebrile periods of 2 - 4 days; the number of relapses varies from 1 to 10 or more. Total duration of louse-borne disease averages 13 - 16 days; tick-borne disease usually lasts longer.

Laboratory criteria

Demonstration of the infectious agents (*Borrelia* species) from blood smear with Wright-Giemsa stain, Auramine O stain, phase contrast microscopy or darkfield microscopy.

Confirmed case

A clinically compatible illness that is laboratory confirmed.

Rubella and Congenital Rubella Syndrome

(Last updated on 25 July 2019)

Clinical Description

Rubella is an illness characterised by acute onset of generalised maculopapular rash, fever, headache, malaise, arthralgia/arthritis, lymphadenopathy, upper respiratory symptoms and conjunctivitis. Congenital Rubella Syndrome (CRS) usually manifests in infancy, resulting from rubella infection in utero. CRS is characterised by deafness, cataract, heart malformations, mental retardation, etc.

Clinical Criteria

Rubella

An illness characterised by all the following:

- generalised maculopapular rash;
- fever; AND
- arthritis/arthralgia or lymphadenopathy.

Congenital Rubella Syndrome

An infant suspected to have CRS with at least any two Category A complications OR one complication from Category A and one from Category B listed below:

- Category A complications: cataracts, congenital glaucoma, congenital heart disease, hearing impairment, pigmentary retinopathy.
- Category B complications: purpura, splenomegaly, microcephaly, developmental delay, meningoencephalitis, radiolucent bone disease, jaundice that begins within 24 hours after birth.

Laboratory Criteria

Any one of the following:

- Detection of nucleic acid of rubella virus in a clinical specimen;
- Isolation of rubella virus from a clinical specimen;
- Seroconversion or a four-fold or greater increase in antibody titre to rubella virus in paired serum specimens (or for CRS, infant rubella antibody level that persists longer than expected from passive transfer of maternal antibody); OR

- Detection of IgM antibody to rubella virus in a serum specimen.

Case Classification

Confirmed case

Rubella

- A case* that fulfils any of the above laboratory criteria; OR
- A case that meets the clinical criteria AND is epidemiologically linked to a confirmed case.

(*Note: A case suspected to have rubella by healthcare professional that fulfils any of the above laboratory criteria is a confirmed case irrespective of the fulfilment of the clinical criteria.)

Congenital Rubella Syndrome

A case that meets at least one of the clinical criteria in Category A, AND fulfils any of the above laboratory criteria.

Probable case

Rubella

A case that meets the clinical criteria AND has no or non-confirmatory serological or virological testing AND is not epidemiologically linked to a confirmed case.

Congenital Rubella Syndrome

A case that meets the clinically criteria AND does not fulfil any of the above laboratory criteria AND lacks evidence of any other etiology.

Scarlet fever

(Last updated on 2 December 2019)

Clinical Description

Scarlet fever is an illness characterised by fever, sore throat and fine sandpaper-like rash which blanches on pressure and with a characteristic distribution. Strawberry tongue and desquamation may also occur.

Laboratory Criteria

Any one of the following:

- Detection of nucleic acid of group A Streptococcus in a respiratory specimen, wound swab or blood specimen;
- Isolation of group A Streptococcus in a respiratory specimen, wound swab or blood specimen; OR
- An antistreptolysin O titre > 200 in a serum specimen.

Case Classification

Confirmed case

A clinically compatible case that fulfils any of the above laboratory criteria.

Probable case

A clinically compatible case that does not fulfil the laboratory criteria.

Severe Acute Respiratory Syndrome (SARS)

(Last updated on 20 June 2008)

Description

The clinical case definition of Severe Acute Respiratory Syndrome (SARS) is a patient fulfilling the following criteria:

- Fever (≥ 38°C); **AND**
- One or more symptoms of lower respiratory tract illness (cough, difficulty breathing, shortness of breath); **AND**
- Radiographic evidence of lung infiltrates consistent with pneumonia or respiratory distress syndrome; **OR**
  autopsy findings consistent with the pathology of pneumonia or RDS without an identifiable cause; **AND**
- No alternative diagnosis can fully explain the illness

Laboratory criteria

Any one of the following:

- PCR positive for SARS-CoV using a validated method from:
  i. At least two different clinical specimens (e.g. nasopharyngeal and stool); **OR**
  ii. The same clinical specimen collected on two or more occasions during the course of the illness (e.g. sequential nasopharyngeal aspirates); **OR**
  iii. Two different assays or repeat PCR using a new RNA extract from the original clinical sample on each occasion of testing
- Seroconversion by ELISA or IFA
  i. Negative antibody test on acute serum followed by positive antibody test on convalescent phase serum tested in parallel; **OR**
  ii. Four-fold or greater rise in antibody titre between acute and convalescent phase sera tested in parallel
- Virus isolation
  i. Isolation in cell culture of SARS-CoV from any specimen and PCR confirmation using a validated method.

Confirmed case

A person with signs and symptoms that are clinically suggestive of SARS **AND** with positive laboratory finding for SARS-CoV based on one or more of the following diagnostic criteria:

- PCR positive for SARS-CoV
- Seroconversion by ELISA or IFA
- Virus isolation

Probable case

Fulfill clinical case definition of SARS, plus (a) epidemiological linkage with a laboratory-confirmed case, or (b) high degree of clinical suspicion based on clinical and laboratory findings.

Shiga toxin-producing *Escherichia coli* infection

(Last updated on 10 June 2011)

Description:

An infection of variable severity characterized by diarrhea (often bloody) and abdominal cramps. Illness may be complicated by haemolytic uraemic syndrome (HUS) or thrombotic thrombocytopenic purpura (TTP).

Laboratory criteria

Isolation of Shiga toxin-producing *Escherichia coli* from a clinical specimen.

Confirmed case

A clinically compatible case with laboratory confirmation.

Probable case

A clinically compatible case without laboratory confirmation, but is epidemiologically linked to a confirmed case.

Smallpox

(Last updated on 27 September 2005)

Description

Smallpox is an illness characterized by acute onset of fever $\geq$ 38°C followed by a rash characterized by firm, deep seated vesicles or pustules in the same stage of development without other apparent cause.

Smallpox no longer exists as a naturally occurring disease. In the absence of known reintroduction of smallpox in the world, surveillance will rely on a highly specific clinical case definition which is focused on identifying classical presentation of smallpox.

Laboratory criteria

Any one of the following:

- Polymerase chain reaction (PCR) identification of variola DNA in a clinical specimen
- Isolation of smallpox (variola) virus from a clinical specimen with variola PCR confirmation

Confirmed case

- A case of smallpox that is laboratory confirmed; **OR**
- A case that meets the clinical case definition and is epidemiologically linked to a laboratory confirmed case

Streptococcus suis infection

(Last updated on 25 July 2019)

Clinical Description

A person with *Streptococcus suis* infection may present as meningitis, sepsis, and less commonly endocarditis, arthritis and bronchopneumonia. *Streptococcus suis* meningitis is characteristically complicated by deafness, which is usually permanent.

Laboratory Criteria

Any one of the following:

- Detection of nucleic acid of *Streptococcus suis* in a clinical specimen; OR
- Isolation of *Streptococcus suis* from a clinical specimen.

Case Classification

Confirmed case

A clinically compatible case that fulfils any one of the above laboratory criteria.

Tetanus

(1 June 2004)

Description

Tetanus is characterized by acute onset of hypertonia and/or painful muscular contractions, usually of the muscles of the jaw and neck, and generalized muscle spasms without other apparent medical cause.

Laboratory Criteria

Not applicable. The organism is rarely recovered from the site of infection and usually there is no detectable antibody response.

Confirmed case

A clinically compatible case as reported by a healthcare professional.

Tuberculosis

(Last updated on 17 October 2017)

Clinical description

Tuberculosis (TB) is a chronic bacterial infection characterized pathologically by the formation of granulomas, most common site of infection is the lungs, but other organs may be involved:

- **Pulmonary tuberculosis:** Classical symptoms including persistent cough, haemoptysis, afternoon fever, night sweating and weight loss.
- **Extrapulmonary tuberculosis:** Clinical features referable to the respective organ/ system and general well-being affected.

Clinical case definition

A case that meets the following criteria:

- Signs and symptoms compatible with active tuberculosis; **AND**
- Supporting evidence from relevant and clinically indicated diagnostic evaluation (e.g., abnormal, unstable [i.e., worsening or improving] chest radiographs); **AND**
- The attending physician forms the opinion that treatment for active tuberculosis with a combination of anti-tuberculosis medications is required

Laboratory criteria

Any of the following:

- Isolation of *Mycobacterium tuberculosis complex* (*M. tuberculosis*, *M. bovis* or *M. africanum*, excluding *M. bovis var BCG*) from a clinical specimen (through culture and identification tests)
- Demonstration of *M. tuberculosis* from a clinical specimen by nucleic acid amplification test (e.g., polymerase chain reaction together with species-specific probe)
- Demonstration of acid-fast bacilli in a clinical specimen (e.g., histological examination)

Confirmed case

A clinically compatible illness that is laboratory confirmed, or in the absence of laboratory confirmation, a case meeting the clinical case definition and showing an appropriate response to treatment.

Probable case

All cases meeting either the clinical case definition or laboratory criteria, but not the full set of criteria for a confirmed case.

Remarks on TB notification:

- If there is strong clinical suspicion of active tuberculosis, notify the case even before all the criteria for clinical case definition are met
- Notification should be made for suspected or confirmed cases even after their death
- When a fresh episode of active tuberculosis, such as relapse of pulmonary tuberculosis, occurs in the same patient
- Notification is not necessary for the following conditions when there is no evidence of active TB:
    i. Persons who are found to have old TB scars on chest radiographs
    ii. Recent conversion of tuberculin skin test from negative to positive without supportive clinical or radiographic evidence of active disease
    iii. Cases given medications for treatment of latent TB infection only (or "TB chemoprophylaxis")
    iv. Cases diagnosed as having disease caused by non-tuberculous mycobacteria
    v. Complications of BCG vaccination or diseases caused by *Mycobacterium bovis var BCG*

Typhoid fever

(Last updated on 20 June 2008)

Description

An illness characterized by fever, headache, malaise, cough, bradycardia, splenomegaly or rose spot on the trunk with or without gastrointestinal symptoms.

Laboratory criteria

- *Salmonella* Typhi isolated from any clinical specimen
- Widal test result of a four-fold or greater rise in the titre of *Salmonella* Typhi O antibody in paired sera

Confirmed case

A clinically compatible case with laboratory confirmation.

Probable case

A clinically compatible case that EITHER

- Has Widal test result of titre of *Salmonella* Typhi O antibody of 200 or greater OR
- Epidemiologically linked to a confirmed case.

Typhus and other rickettsial diseases

(Last updated on 14 July 2008)

Rickettsial diseases are caused by a group of Gram-negative obligate intracellular bacteria in the family *Rickettsiaceae*.

They are primarily vector-borne diseases – transmitted by the bite or faeces of infected arthropod vectors. The affected patients usually presents with systemic infections often characterized by fever and rash.

Scrub typhus (*Orientia tsutsugamushi)* and spotted fever (caused by more than 30 types of *rickettsiae*) are common rickettsial diseases in Hong Kong. Epidemic typhus (*Rickettsia prowazekii)* is of concern because of its public health potential. Yet it has not been reported in Hong Kong for the past few decades. Urban typhus (*Rickettsia typhi*) is occasionally reported. The case definitions for each of the four infections are detailed in the following sections.

Urban typhus

(Last updated on 26 October 2004)

Description

Urban typhus is characterized by fever, headache, myalgia, rash, vomiting and cough. It is caused by *Rickettsia typhi* and transmitted by rat flea (*Xenopsylla cheopis*).

Laboratory Criteria

Any one of the following:

- Immunofluorescence test demonstrating a four-fold or greater increase in antibody titre against *typhus* group
- Polymerase chain reaction assay demonstrating the presence of the genome of *Rickettsia typhi* in the blood specimen

Confirmed case

A clinically compatible case that is laboratory confirmed.

Probable case

A clinically compatible case with supportive laboratory findings:
Immunofluorescence test demonstrating a single antibody titre against *Typhus* group ≥ 512

Scrub typhus

(Last updated on 20 June 2008)

Description

Scrub typhus is characterized by fever, headache, myalgia, eschar, lymphadenopathy and rash. Though the causative agent of scrub typhus has been reclassified as a distinct genus called *Orientia*, it has been conventionally grouped under Rickettsiosis.

Laboratory criteria

Any one of the following:

- Polymerase chain reaction assay demonstrating the presence of the genome of *Orientia tsutsugamushi* in the blood specimen
- Immunofluorescence test demonstrating four fold rise in antibody against *Scrub Typhus* group

Confirmed case

A clinically compatible case with laboratory confirmation.

Probable case

A clinically compatible case with supportive laboratory findings:

- Weil-Felix Test demonstrating a single *Proteus* OX-K titre ≥ 320; **OR**
- Immunofluorescence test demonstrating a single antibody titre against *Scrub Typhus* group ≥ 512

Epidemic typhus

(Last updated on 9 November 2007)

Description

Epidemic typhus is characterized by abrupt onset of headache, fever, chills and myalgia. A macular eruption appears on the fifth to sixth day, initially on the upper trunk, followed by spread to the entire body, but usually not to the face, palms or soles. It is transmitted from person-to-person by the body louse (*Pediculus humanus corporis).*

Laboratory criteria

- Polymerase chain reaction assay demonstrating the presence of the genome of *Rickettsia prowazekii* in the blood specimen

Confirmed case

A clinically compatible case with laboratory confirmation.

Spotted fever

(Last updated on 5 October 2007)

Description

The clinical presentation of spotted fever is usually non-specific. There is a mild to severe febrile illness for a few days to 2 weeks. Rash is a common clinical feature and may persist for one week. There may be a primary lesion or eschar at the site of the arthropod bite. Regional lymph nodes may enlarge.

Laboratory criteria

Any one of the following:

- Four-fold or greater rise in antibody titre against the "spotted fever group" of rickettsiae
- Polymerase chain reaction demonstrating the presence of the genome of rickettsia of the "spotted fever group" in the blood specimen

Confirmed case

A clinically compatible case that is laboratory confirmed.

Probable case

A clinically compatible case with a single antibody titre against spotted fever group ≥ 512.

Viral haemorrhagic fever

(Last updated on 15 June 2023)

Clinical Description

Viral haemorrhagic fever (VHF) refers to a group of systemic, mild to life-threatening viral infection often accompanied by haemorrhage. Initial symptoms include marked fever, malaise, dizziness, myalgia, loss of strength, and exhaustion. Severe cases may show signs of bleeding under the skin, in internal organs, or from body orifices like the mouth, eyes, or ears. Some cases may even show shock, nervous system malfunction, coma, delirium, and seizures.

Four distinct families of virus are known to cause VHF, including arenaviruses, bunyaviruses, filoviruses and flaviviruses[#]. Most of these viruses are zoonotic while others are transmitted by ticks and mosquitoes.

More concerning VHF include Crimean-Congo haemorrhagic fever, Ebola virus disease, Lassa fever and Marburg haemorrhagic fever because of possible secondary person-to-person transmission of these diseases. Based on overseas reports, the incubation periods range from 2 to 21 days (Crimean Congo: 5-13 days; Ebola: 2-21 days; Lassa: 1-3 weeks and Marburg: 5-10 days).

([#]Infections of some flaviviruses (dengue virus and yellow fever virus) and bunyavirus (hantavirus) have been listed as individual notifiable infectious diseases and are described in the respective sections separately.)

Laboratory Criteria

Any one of the following:

- Detection of nucleic acid of a specific VHF virus in a clinical specimen;
- Isolation of a specific VHF virus from a clinical specimen; OR
- Seroconversion or a four-fold or greater increase in IgG antibody titre to a specific VHF virus.

Case Classification

Confirmed case

A clinically compatible case that fulfils any of the above laboratory criteria.

Probable case

A clinically compatible case with any one of the following epidemiological evidence but with no or non-confirmatory laboratory testing:

- History of travel to an endemic/epidemic area within the incubation period of illness onset;
- Contact with a confirmed case; OR
- Exposure to VHF infected blood or tissues.

*Viral hepatitis

(Last updated on 3 January 2017)

* Only acute or newly acquired infection is required to be notified.

Viral Hepatitis A

Description

Acute viral hepatitis is characterized by features of an acute infectious hepatitis including fever, malaise, anorexia, nausea, abdominal discomfort, dark urine, and jaundice.

Confirmed case

A clinically compatible case with anti-HAV IgM positive.

Viral Hepatitis B

Description

Acute viral hepatitis is characterized by features of an acute infectious hepatitis including fever, malaise, anorexia, nausea, abdominal discomfort, dark urine, and jaundice.

Confirmed case

A clinically compatible case with IgM anti-HBc positive.

Viral Hepatitis C

Description

Most acute hepatitis C cases are asymptomatic. Patients presenting with symptoms and signs are characterized by discrete onset acute viral illness (e.g. fever, malaise, fatigue, anorexia, nausea, jaundice and dark urine) or deranged liver function (e.g. ALT levels more than 10 times the upper limit of normal).

Confirmed case

Any one of the following:

- A clinically compatible case with detectable HCV RNA and a negative anti-HCV antibody result within the past 18 months.
- Test conversion result of anti-HCV antibody or RNA within 18 months.

Probable case

A clinically compatible case with a positive anti-HCV antibody result but without test conversion result of anti-HCV antibody within the past 18 months.

Viral Hepatitis D

Description

Acute viral hepatitis is characterized by features of an acute infectious hepatitis including fever, malaise, anorexia, nausea, abdominal discomfort, dark urine, and jaundice.

Confirmed case

A clinically compatible case with anti-HDV positive.

Viral Hepatitis E

Description

Acute viral hepatitis is characterized by features of an acute infectious hepatitis including fever, malaise, anorexia, nausea, abdominal discomfort, dark urine, and jaundice.

Confirmed case

A clinically compatible case with anti-HEV IgM positive or detectable HEV RNA.

West Nile Virus Infection

(Last updated on 9 November 2007)

Description

West Nile Virus (WNV) infection causes a spectrum of febrile illnesses with or without central nervous system (CNS) involvement. Most patients present with non-localised, self-limited febrile illness, i.e. West Nile Fever, with headache, myalgias, arthralgia, and sometimes skin rash or lymphadenopathy. Occasionally, when CNS is affected, the patient may present with aseptic meningitis, myelitis, encephalitis and acute flaccid paralysis. Other rare syndromes may include myocarditis, pancreatitis and hepatitis.

Laboratory criteria

Any one of the following:

- Isolation of West Nile virus from tissue, blood, cerebrospinal fluid (CSF), or other body fluid
- Demonstration of West Nile virus genomic sequences in tissue, blood, cerebrospinal fluid (CSF), or other body fluid by polymerase chain reaction (PCR)
- Demonstration of a four-fold or greater change in West Nile virus antibody titres in paired acute and convalescent sera, or CSF
- Detection of West Nile virus IgM antibodies in CSF

Confirmed case

A clinically compatible illness that is laboratory confirmed.

Probable case

A clinically compatible illness with a positive West Nile virus IgM test on a single serum specimen OR antibody titre of ≥ 320 on a single serum specimen.

Whooping cough (Pertussis)

(Last updated on 2 December 2019)

Clinical Description

A cough illness lasting at least 2 weeks with one of the following: paroxysms of coughing, inspiratory “whoop”, or post-tussive vomiting, and without other apparent causes.

Laboratory Criteria

- Detection of nucleic acid of *Bordetella pertussis* in a clinical specimen; OR
- Isolation of *Bordetella pertussis* from a clinical specimen.

Case Classification

Confirmed case

Any one of the following:

- An acute cough illness of any duration that fulfils the laboratory criteria; OR
- A clinically compatible case that is epidemiologically-linked to a laboratory confirmed case but does not have laboratory test performed.

Probable case

A clinically compatible case that does not have laboratory test performed, and is not epidemiologically-linked to a laboratory confirmed case.

Yellow fever

(Last updated on 15 January 2005)

Description

A mosquito-borne viral illness characterized by acute onset and constitutional symptoms followed by brief remission and recurrence of fever, hepatitis, albuminuria, and in some instances, renal failure, shock, and generalized haemorrhages.

Laboratory criteria

- Four-fold or greater rise in yellow fever antibody titre with no history of recent yellow fever immunization, and cross-reactions to other flaviviruses ruled out; **OR**
- Demonstration of yellow fever virus, antigen, or genome in tissue, blood, or other body fluid

Confirmed case

A clinically compatible illness that is laboratory confirmed.

Probable case

A clinically compatible illness with supportive serology. (Stable elevated antibody titre to yellow fever virus, or a positive IgM result. Cross-reactive serologic reactions to other flaviviruses must be ruled out, and there must be no history of yellow fever immunization.)

Zika Virus Infection

(Last updated on 27 September 2016)

Description

Zika Virus Infection may be asymptomatic. Symptoms of Zika Virus Infection are similar to those of dengue fever and chikungunya fever. Symptomatic Zika Virus Infections are characterised by skin rash, fever, conjunctivitis, muscle or joint pain, malaise and headache.

There is scientific consensus that Zika virus is a cause of congenital brain abnormalities, including microcephaly and that Zika virus is a trigger of Guillain–Barré syndrome (GBS). In addition to microcephaly, other problems have been detected among foetuses and infants infected with Zika virus before birth, such as eye defects, hearing loss and impaired growth. Besides GBS, there are cases reported to have other neurological complications including meningitis, meningoencephalitis, myelitis and acute disseminated encephalomyelitis.

Laboratory criteria

Detection of Zika virus by nucleic acid testing or virus isolation in a clinical specimen

Confirmed case

- A case that is laboratory confirmed. A laboratory confirmed case does not need to meet the clinical case definition; **OR**
- A probable case that is epidemiologically linked to a confirmed case

Probable case

A case where laboratory test results cannot confirm or rule out recent infection due to cross-reactivity with other flaviviruses, for example:

- Positive Zika virus IgM antibody test, **OR**
- Four-fold or greater rise in Zika virus antibody titres in acute and convalescent serum samples

Section III

Communicable Diseases of Topical Public Health Concern

Acute flaccid paralysis

(Last updated on 14 July 2008)

Description

Acute flaccid paralysis (AFP) is defined as acute onset of focal weakness or paralysis characterized as flaccid (reduced muscle tone). The AFP surveillance has been set up primarily for detecting acute poliomyelitis among children under 15 years of age.

Acute flaccid paralysis may result from different causes, such as paralytic poliomyelitis, Guillain-Barré syndrome, transverse myelitis, traumatic neuritis, infectious and toxic neuropathies, tick paralysis, myasthenia gravis, porphyria, botulism, insecticide poisoning, polymyositis, trichinosis and periodic paralysis.

After investigation, a reported AFP will be further classified into paralytic poliomyelitis, polio-compatible, and non-polio AFP based on the respective clinical, epidemiological and laboratory findings. A case of paralytic poliomyelitis is notifiable.

Laboratory criteria

AFP surveillance is set up to ensure sensitive detection of wild poliovirus in areas where it has been free of for a prolonged period. Hence, to rule out the diagnosis of acute poliomyelitis, two adequate stool samples collected at least 24-48 hours apart, 0-14 days after onset of paralysis should be submitted for viral study.

An adequate stool sample refers to a stool sample with adequate volume (8-10 grams) and arrives in the laboratory in good condition within 72 hours of collection. Good condition refers to the condition where there is no desiccation or leakage of the stool, together with adequate documentation and evidence that the specimen is kept at 4-8 ^{o}C (based on presence of ice or temperature indicator).

Non-polio AFP case

A non-polio AFP case is:

- a case with acute paralytic illness for which adequate stool specimens were obtained within 2 weeks after onset of paralysis and was negative for poliovirus
- an AFP case without adequate stool specimens but with reliable follow-up information indicating no residual paralysis at 60 days
- any AFP case with inadequate stool specimens classified as “non-polio AFP” after expert review (Please refer to “polio-compatible”)

Polio-compatible case

A polio-compatible case is an AFP case in which inadequate stool specimens were collected within 2 weeks of the onset of paralysis, and there is either an acute paralytic illness with polio-compatible residual paralysis at 60 days, or death takes place within 60 days, or the case is lost to follow-up. The cases should undergo expert review. It may subsequently be classified either as “non-polio AFP” or “Polio-compatible” depending on the epidemiological and clinical information.

Brucellosis

(Last updated on 20 June 2008)

Description

An illness characterized by acute or insidious onset, with continued, intermittent or irregular fever of variable duration, profuse sweating particularly at night, fatigue, anorexia, weight loss, headache, arthralgia and generalized aching. Local infection of various organs may occur.

Laboratory criteria

Any one of the following:

- Isolation of *Brucella* species from a clinical specimen
- Four-fold or greater rise in *Brucella* agglutination titre between acute- and convalescent-phase serum specimens

Confirmed case

A clinically compatible case that is laboratory confirmed.

Probable case

A clinically compatible case with

- Epidemiological linkage to a confirmed case; **OR**
- Supportive serology (i.e., *Brucella* agglutination titre of ≥ 160 in one or more serum specimens obtained after onset of symptoms)

B virus infection

(Last updated on 5 April 2024)

Description

B virus (also known as herpes simiae virus) is a type of herpes virus that is usually found among macaques. B virus can be found in the saliva, urine and stool of infected macaques. Human infections are mainly caused by bites or scratches by infected macaques.

Symptoms usually occur within 1 month of the patient being exposed. Infected persons may initially present with flu-like symptoms, such as fever and chills, muscle ache, fatigue and headache. Vesicular skin lesions may then occur at the bite or scratch site. As disease progresses, the virus can spread to the central nervous system (CNS) resulting in pain/numbness/itchiness near the wound, problems with muscle coordination, damage to the nervous system and even death. Other symptoms suggestive of CNS involvement include hyperesthesia, ataxia, diplopia, agitation and ascending flaccid paralysis.

Reporting criteria

An individual with history of monkey scratch/bite with wound within 1 month of illness onset **AND** features suggestive of CNS infection

OR

An individual with detection of nucleic acid of B virus in a clinical specimen.

Confirmed case

A clinically compatible illness that is laboratory confirmed.

Cryptosporidiosis

(Last updated on 2 December 2019)

Clinical Description

Cryptosporidiosis is an infection caused by the protozoan *Cryptosporidium* species. Persons infected with *Cryptosporidium* may be asymptomatic. For those who develop symptoms, common symptoms include diarrhoea, abdominal cramps, fever, nausea, vomiting, dehydration and weight loss. The disease can be prolonged and life-threatening in severely immunocompromised persons.

Laboratory Criteria

Any one of the following in an appropriate clinical specimen (e.g. stool, intestinal fluid, tissue sample or biopsy specimens):

- Detection of nucleic acid of *Cryptosporidium*;
- Detection of *Cryptosporidium* antigen by direct fluorescence antibody test or enzyme immunoassay; OR
- Detection of *Cryptosporidium* oocysts by microscopic examination.

Case Classification

Confirmed case

A clinically compatible case that fulfils any of the above laboratory criteria.

Severe paediatric enterovirus infection (other than EV71 and poliovirus*)

(Last updated in June 2011, effective on 1 June 2011)

Description

Enteroviruses cause mild illness like non-specific febrile illness, herpangina, and hand, foot and mouth disease, commonly in young children. However severe complications can develop in some patients. These include meningitis, encephalitis, acute flaccid paralysis, other central nervous system complication (e.g. cerebellar ataxia), myocarditis / pericarditis, pulmonary edema or hemorrhage, and death.

Laboratory Criteria

Any one of the following:

- Isolation of enterovirus (other than EV71 and poliovirus) from a clinical specimen
- Detection of enterovirus (other than EV71 and poliovirus) by PCR from a clinical specimen

Confirmed case

A clinically compatible case that is laboratory confirmed.

Reporting criteria for severe paediatric enterovirus infection (other than EV71 and poliovirus*)

(Last updated in June 2011, effective on 1 June 2011)

An individual fulfilling both the ***Clinical Criteria AND Laboratory Criteria*** should be reported to Centre for Health Protection for further investigation.

Clinical Criteria

1. Children <=12 years old on date of admission; AND
2. A person presented with the following condition:
    - Meningitis; OR
    - Encephalitis; OR
    - Acute flaccid paralysis; OR
    - Other central nervous system complication (e.g. cerebellar ataxia); OR
    - Myocarditis/pericarditis; OR
    - Pulmonary edema or hemorrhage OR
    - Death

Laboratory Criteria

Any one of the following:

- Isolation of enterovirus (other than EV71 and poliovirus) from a clinical specimen
- Detection of enterovirus (other than EV71 and poliovirus) by PCR from a clinical specimen

*Acute poliomyelitis and EV71 infection are notifiable infectious diseases.

Severe paediatric influenza-associated complication/death

(Last updated in December 2014, effective on 13 January 2012)

Description

Young children are at higher risk of having complications when infected by influenza viruses, such as pneumonia, sepsis, encephalitis, myocarditis and death.

Laboratory criteria

Any positive test for influenza viruses:

- Isolation of influenza viruses from clinical specimens in viral culture;
- Positive immunofluorescence (IF) test for influenza viruses;
- A four-fold or higher rise in specific antibody titre for influenza viruses between acute and convalescent sera;
- Positive Polymerase Chain Reaction for influenza viruses; or
- Positive rapid antigen test for influenza viruses.

Confirmed case

A suspected case with laboratory confirmation.

Suspected case

An individual fulfilling the reporting criteria:

1. Children <18 years old on date of admission; AND
2. with fever and respiratory symptoms; AND
3. one of the following complications:
    - severe pneumonia (requiring admission to intensive care unit or assisted ventilation); OR
    - sepsis; OR
    - shock; OR
    - encephalopathy; OR
    - myocarditis; OR
    - death.

Reporting criteria for severe paediatric influenza-associated complication/death

(Last updated in December 2014, effective on 13 January 2012)

An individual fulfilling all the following 3 criteria should be reported to the Centre for Health Protection for further investigation:

1. Children <18 years old on date of admission; AND
2. with fever and respiratory symptoms; AND
3. one of the following complications:
    - severe pneumonia (requiring admission to intensive care unit or assisted ventilation); OR
    - sepsis; OR
    - shock; OR
    - encephalopathy; OR
    - myocarditis; OR
    - death.

Vibrio vulnificus infection (with necrotising fasciitis)

(Last updated on 7 September 2023)

Description

Vibrio vulnificus has drawn much concern for causing rapidly fatal necrotizing fasciitis in some individuals who have suffered from contamination of minor skin wound with salt-water containing the organism. It is uncommon but severe involving the subcutaneous soft tissues, particularly the superficial and the deep fascia.

Most patients present with signs of inflammation such as erythema, swelling, and pain at the affected site. Severe pain disproportionate to local findings and in association with systemic toxicity should raise the suspicion of necrotizing fasciitis. The organism can also cause septicaemia, cellulitis, and occasionally gastroenteritis.

Laboratory criteria

Isolation of *Vibrio vulnificus* from tissue biopsy, blood culture, or the relevant clinical specimen.

Confirmed case

A clinically compatible case that is laboratory confirmed.

Acute conjunctivitis outbreak

(Last updated on 14 July 2008)

Clinical description

Acute conjunctivitis is characterized by a different combination of discharges, tearing, foreign body sensation, itchiness, pain, swelling and redness. ACJ could be caused by either viruses or bacteria.

Common viral causes include enteroviruses, coxsackievirus, HSV and adenovirus while bacterial causes include *streptococcus pneumoniae*, *Staphylococcus aureus* and *Haemophilus influenzae.* *Chlamydia trachomatis* could very occasionally cause epidemic.

Acute gastroenteritis outbreak

(Last updated on 14 July 2008)

Clinical description

An outbreak is classified as acute gastroenteritis outbreak when there the main presenting symptoms are acute onset of diarrhoea with or without vomiting in the absence of a common food source. Other common symptoms include abdominal pain and fever.

Acute gastroenteritis outbreak may be related to a bacterial cause. However, viral causes, such as *norovirus* or *rotavirus* are more common causes of seasonal increase in acute gastroenteritis outbreaks in institutions.

Hand, foot and mouth disease (HFMD) and herpangina outbreak

(Last updated on 14 July 2008)

Clinical description

An outbreak of HFMD is characterized by patients presented with fever, sore throat, and skin rash. The rash usually appears over fingers and palms, feet (including soles) and other parts of the body such as buttocks and thighs. Vesicles can also be found in the oral cavity especially on the tongue and soft palate. Herpangina may present similarly as fever, painful oral vesicles on tonsils and posterior pharynx but usually do not involve hand and foot.

HFMD and herpangina are both caused by enteroviruses. *Coxsackieviruses* A16 is the most common cause of HFMD outbreaks occurring in institutions but other types of enteroviruses such as coxsackievirus A4, A5, A9, A10, B2, B5 and EV71 have also been associated with this syndrome.

Outbreaks of respiratory infection including influenza

(Last updated on 14 July 2008)

Description

In an outbreak of respiratory infection, patients may present with fever, runny nose, sore throat, cough or other respiratory symptoms in various combinations. The severity varies with the causative agents. Influenza virus, parainfluenza virus, adenovirus, rhinovirus, human metapneumovirus and respiratory syncytial virus are examples of such causative agents found in Hong Kong.

An outbreak will be defined as “an influenza outbreak” if there is a laboratory confirmation that influenza virus is the causative agent. The main presenting symptoms of patients are fever, sore throat and cough. In Hong Kong, three types of influenza virus are most commonly detected. These are: influenza A(H1N1), influenza A(H3N2), and influenza B.

On the other hand, an outbreak with clinical features suggestive of influenza but without a laboratory confirmation is classified as “suspected influenza outbreak” or “influenza-like illness outbreak”. It should be noted that outbreaks caused by parainfluenza virus are not considered an influenza outbreak.

Section IV
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