

Section 10:

Guidelines for Diseases, Syndromes and Health Events under Surveillance

THIS SECTION DESCRIBES:

- ◆ The specific diseases, syndromes and health events under surveillance
- ◆ The importance of surveillance for each disease, syndrome and health event
- ◆ How to investigate and control the spread of specific diseases, syndromes and health events under surveillance and notify the proper

ACUTE BLOODY DIARRHEA

ICD 10 CODE: A09.0

Description:

- ◆ Bloody diarrhea is usually a sign of invasive enteric infection that carries a substantial risk of serious morbidity and death, especially in children in developing countries.
- ◆ *Shigella dysenteriae* is most frequently isolated from the stools of affected children and is transmitted from person-to-person through the fecal-oral route.
- ◆ The disease is characterized by acute fever and bloody diarrhea, and can also present with systemic symptoms and signs as well as dehydration especially in young children.
- ◆ Overcrowded areas with unsafe drinking water and poor sanitation are the most common risk factors.
- ◆ The following diseases may present as acute bloody diarrhea: Shigellosis, Salmonellosis, Campylobacteriosis, Amoebic dysentery, Enterohaemorrhagic Escherichia coli, Hemorrhagic fever.

Importance of Surveillance:

- ◆ The emergence of strains of *Shigella dysenteriae* type 1 resistant to most antibiotics has become a major public health concern.
- ◆ The high case-fatality and the epidemic potential of the disease/syndrome make surveillance to detect and control the outbreaks essential.

Standard Case Definition/ Case classification

- ◆ A person with acute diarrhea with visible blood in the stool.

Laboratory Confirmation:

- ◆ Culture of stools may be used to confirm possible outbreaks of specific diarrhea, such as *Shigella dysenteriae* type 1, but is not necessary for case definition.
- ◆ Patients for stool culture should be chosen among those with bloody diarrhea of less than 4 days, without treatment, who agree to the examination.
- ◆ Bacterial: Gram stain, fecal leukocytes, culture, antimicrobial susceptibility, serotyping, toxin identification.
- ◆ Parasitic: Macroscopic and microscopic examination.
- ◆ Viral: Antigen detection

Case detection and Reporting:

- ◆ Report all cases every FRIDAY of the week to the next higher level using the Case Report Form (CRF).
- ◆ Obtain specimen & Search for additional cases in locality of confirmed case.
- ◆ Determine risk factors contributing to the transmission of disease.
- ◆ Laboratories involved in the diagnosis of *Shigella dysenteriae* type 1 should report confirmed cases.
- ◆ Central recording of antibiotic susceptibility is recommended through the Antimicrobial Resistance Surveillance Project (ARSP) of RITM.

Outbreak Investigation and Control:

- ◆ After an epidemic caused by *Shigella dysenteriae* type 1 or has been confirmed, it is not necessary to examine specimens from all cases (unnecessary burden on laboratory facilities).
- ◆ Strengthen case management and treatment using the national treatment protocol.
- ◆ Mobilize the community to enable rapid case detection and treatment.
- ◆ Identify high-risk populations using person, place and time data.
- ◆ Reduce sporadic and outbreak-related cases by providing safe drinking water, promoting personal hygiene like handwashing with soap and water before handling food and after defecating And encourage use of latrines and safe disposal of human wastes.



ACUTE ENCEPHALITIS SYNDROME

JAPANESE ENCEPHALITIS ICD 10 CODE: A83.0

Description:

- ◆ Acute encephalitis syndrome is a clinical illness characterized by fever, change of mental status and/or new onset of seizures (excluding simple febrile seizures in children).
- ◆ Other clinical findings may include increased irritability, somnolence or abnormal behavior greater than seen with usual febrile illness.
- ◆ Japanese Encephalitis (JE) is the leading cause of viral encephalitis in Asia, causing an estimated 67,900 cases annually, mostly among children. However, the number of officially reported cases of JE is much lower due to incomplete surveillance in many affected areas.
- ◆ The large majority of JE infections are asymptomatic. Therefore, in areas that are highly endemic for JE, it is possible to have AES due to a cause other than JE virus and have JE virus-specific IgM antibody present in serum. To avoid implicating asymptomatic JE as the cause of other AES illnesses, sterile collection and testing of a CSF sample from all persons with AES is recommended when feasible.
- ◆ A serum sample should be obtained at admission. Because it may not yet be positive in a JE-infected person, a second serum sample should be collected at discharge or on the 10th day of illness onset (usually around 7 days after admission) or at the time of death and tested for presence of JE virus specific IgM.
- ◆ It is not necessary to test all specimens in a normal seasonal outbreak of JE after the outbreak has been confirmed by laboratory testing. If the outbreak is not an expected seasonal outbreak, or there are unusual epidemiological features (e.g. age distribution of cases not consistent with pattern of JE infection), testing of CSF is especially important, as an encephalitis outbreak could be due to other etiologies.

Importance of Surveillance:

- ◆ The early detection of epidemics through epidemiological surveillance allows for identification of the causal agent and the institution of targeted control measures and effective case management.
- ◆ It is important to assess if the case develops acute flaccid paralysis (AFP). Any case manifesting AFP should be completely investigated using CIF for AFP surveillance. Two stool specimens must be collected 24 hours apart and within 14 days from paralysis onset.

Standard Case Definition

AES (Suspected JE) Case:

- ◆ A case of Acute Encephalitis Syndrome (AES) is defined as a person of any age, with the acute onset of fever **and at least one** of the following :
 - ⇒ Change in mental status (e.g.confusion, disorientation, coma or inability to talk);
 - ⇒ New onset of seizures (excluding simple febrile seizures).

Case classification

Clinical case:

- ◆ *A case that meets the suspect case definition.*

Laboratory-confirmed JE:

- ◆ An AES case that has been laboratory-confirmed as JE.

Probable JE:

- ◆ An AES case that occurs in close geographical and temporal relationship to a laboratory-confirmed case of JE, in the context of an outbreak.

ACUTE ENCEPHALITIS SYNDROME

JAPANESE ENCEPHALITIS ICD 10 CODE: A83.0

Case classification

AES - other agent:

- ◆ An AES case in which diagnostic testing is performed and an etiologic agent other than JE virus is identified.

AES - unknown:

- ◆ An AES case in which diagnostic testing is not performed or testing was performed but no etiologic agent was identified or in which the test results were indeterminate.

Laboratory Confirmation:

The recommended method for laboratory confirmation of a JE virus infection is:

- ◆ Presence of JE virus-specific IgM antibody in a single sample of cerebrospinal fluid (CSF) or serum, as detected by an IgM-capture ELISA specifically for JE virus.



Note: CSF is the preferred sample for diagnosis of JE.

The following confirmatory tests are done ONLY by specialized laboratory:

- ◆ Detection of JE virus antigens in brain tissue by immunohistochemistry or immunofluorescence assay; OR
- ◆ Detection of JE virus genome in CSF, serum, plasma, blood, or brain tissue by reverse transcriptase Polymerase chain reaction (PCR) or an equally sensitive and specific nucleic acid amplification test; OR
- ◆ Isolation of JE virus in serum, plasma, blood, CSF, or brain tissue, OR
- ◆ Detection of a four-fold or greater rise in JE virus-specific antibody as measured by hemagglutination inhibition (HI) or plaque reduction neutralization assay (PRNT) in serum collected during the acute and convalescent-phase of illness. The two specimens for IgG should be collected at least 14 days apart.

Case detection and Reporting:

- ◆ Report all cases every FRIDAY of the week to the next higher level using the Case Report Form (CRF).

Outbreak Investigation and Control:

- ◆ Active case finding.
- ◆ Assess and monitor the spread of an outbreak.
- ◆ The most effective means to prevent and control JE is the vaccination of the at risk population.



ACUTE FLACCID PARALYSIS POLIOMYELITIS ICD 10 CODE: A80.0

Description:

- ◆ Acute flaccid paralysis (AFP) is a syndrome in which there is a sudden onset of floppy paralysis or weakness usually of the arms or legs. Initial symptoms may include fever, fatigue, headache, nausea, vomiting, muscle pain and stiffness in the neck and back.
- ◆ AFP is manifested in diseases such as: poliomyelitis, Guillain Barre Syndrome (GBS), transverse myelitis, traumatic neuritis and others.
- ◆ All cases of AFP should be considered as suspected polio cases until viral culture and the expert review committee indicates otherwise.
- ◆ If paralysis was clearly caused by trauma or was present at birth, the child should not be considered an AFP case.

Poliomyelitis:

- ◆ Poliomyelitis (polio) is a highly infectious disease caused by the wild poliovirus. It invades the nervous system, and can cause paralysis or even death in a matter of hours.
- ◆ Poliovirus (genus *Enterovirus*) serotypes 1, 2, and 3 are transmitted from person-to-person via fecal-oral spread. However, the virus can be transmitted by indirect contact with infectious saliva or feces, or by contaminated sewage or water. All serotypes can cause paralysis.
- ◆ Paralysis is typically flaccid, asymmetric and most commonly affects the lower extremities.
- ◆ Incubation period ranges from 3 to 35 days but commonly 7 to 14 days for paralytic cases.
- ◆ Most infected people (90%) have no symptoms or very mild symptoms and usually go unrecognized. These symptomless people carry the virus in their intestines and can “silently” spread the infection to thousands of others before the first case of polio paralysis emerges.
- ◆ Polio infection occurs almost exclusively among children but also adults can get polio or be silent carriers. Infection may occur with any of 3 serotypes of poliovirus. Immunity is serotype-specific and lifelong.
- ◆ Paralytic polio can kill but even when not fatal, has devastating social and economic consequences among affected individuals.
- ◆ The Global Polio Eradication Initiative (GPEI) has reduced ongoing wild poliovirus transmission to a few areas through successfully implemented polio immunization campaigns but these areas continue to export the virus to polio-free areas, where outbreaks can occur if population immunity is low. It does not matter how long a country has been polio-free.

Importance of Surveillance:

- ◆ Highly sensitive surveillance for AFP, including immediate case investigation. Specimen collection is critical for the detection of wild poliovirus circulation with the ultimate objective of preventing circulation and outbreaks.
- ◆ AFP surveillance is for suspected or possible polio. Its purpose is to detect reliably areas where poliovirus transmission is occurring or likely to occur, and to allow supplementary immunization to be focused where it is needed. As the number of polio cases globally approaches zero, the ability to detect and respond rapidly to every case of AFP becomes critical. To ensure that every case of polio will be detected, intensive surveillance for AFP should be conducted ensuring every case has two stool specimens collected within 14 days and with a 24 hours collection interval.

Standard Case Definition

- ◆ **AFP case:** Any child under 15 years of age with acute onset of floppy paralysis, OR a person of any age in whom poliomyelitis is suspected.

ACUTE FLACCID PARALYSIS POLIOMYELITIS ICD 10 CODE: A80.0

AFP "Hot Case" Definition

- ◆ An AFP case is less than 5 years of age with less than 3 OPV doses and had fever at onset of asymmetrical paralysis.
- ◆ An AFP case or a person of any age whose stool specimen(s) has L20B+ isolate.



Reminder: Report all AFP hot cases within 24 hours to RESU and NEC for appropriate and immediate action.

What to do when an AFP "Hot Case" is reported?

1. For AFP that fits the first hot case definition, facilitate collection of specimens and immediate transport to the laboratory to determine if the case is shedding poliovirus.
2. Conduct further investigation of the case to determine the following:
 - A. Patient's medical profile:**
 - ⇒ Verify the final diagnosis and re-assess the presence and type of paralysis, including other clinical manifestations.
 - ⇒ Determine the OPV immunization status of the child/person including the date of the last OPV dose.
 - ⇒ If not vaccinated, determine exposure to recently (within 60 days after vaccination) OPV vaccinated individual.
 - ⇒ Check history of travel within 60 days prior to paralysis onset. Collect data on travel dates and other details for both local and international travel, particularly in countries with poliovirus transmission.
 - B. Community profile:**
 - ⇒ Presence of other AFP cases in the barangay and municipality where the child/person resides (and eventually also neighbouring barangays and municipalities) for the past 6 months
 - ⇒ Schedule of immunization activity in the community
 - ⇒ Latest immunization coverage of the RHU catchment area and the nearby RHUs and validate OPV3 coverage in the target client list (TCL)
 - ⇒ Determine if the community is high risk for transmission (e.g. areas with backdoor, areas with dense population, areas along the main highways, areas with airports and seaports, slums).
3. Conduct retrospective records review in the hospital/health facility where the child was seen. It shall cover the period of 60 days prior to onset of paralysis of the AFP hot case.
4. Recommend to RHUs and hospitals to continuously monitor and report subsequent AFP cases.
5. All additional and new AFP cases in the area must be immediately reported and completely investigated.
6. If OPV3 coverage is less than 90%, conduct 2 rounds of OPV immunization among under-five children regardless of OPV immunization status in the RHU catchment areas. If resources are limited for a two-round OPV immunization activity, the minimum response is to conduct a "catch up" OPV immunization among under-five children who did not complete the 3 doses of OPV in the RHU catchment area.



Reminders:

- **Submit investigation and immunization activity report to ESUs, NEC and EPI**
- **Coordinate with CHD on risk communication and other assistance**
- **Provide medical assistance to the patient and complete the 3 doses of OPV and all other Antigens**

ACUTE FLACCID PARALYSIS POLIOMYELITIS ICD 10 CODE: A80.0

Case classification

All reported AFP cases are presented to the AFP ERC for review and deliberation. For proper classification, complete medical records with relevant information and laboratory results should be provided especially for cases with inadequate stool specimens. AFP cases may be classified as follows:

Confirmed wild polio

- ◆ Confirmed wild polio is a case of acute paralytic illness, with or without residual paralysis, associated with the isolation of wild poliovirus from the stools of either the case or its contacts.

Vaccine-derived poliovirus (VDPV)

- ◆ Vaccine-derived polioviruses (VDPVs) are rare strains of poliovirus that have genetically mutated from the strain contained in the oral polio vaccine.
- ◆ On rare occasions, if a population is seriously under-immunized, there are enough susceptible children for the excreted vaccine-derived polioviruses to begin circulating in the community. These viruses are called circulating vaccine-derived polioviruses (cVDPV). Circulating vaccine-derived polioviruses must be managed in the same way as wild poliovirus outbreaks.

Vaccine-associated paralytic poliomyelitis (VAPP)

- ◆ A case with acute paralytic illness in which vaccine-like poliovirus is isolated from stool samples, and the virus is believed to be the cause of the disease. It is a very rare adverse event following OPV vaccination (estimated 1 case in 2.7 million children receiving their first dose of OPV).

There are two possible types of VAPP: recipient and contact.

- ◆ A case classified as a **recipient VAPP** is a person who has onset of AFP 4 to 40 days after receiving OPV and has neurologic sequelae compatible with polio 60 days after paralysis onset.
- ◆ A case is classified as a **contact VAPP** when a person who has residual paralysis 60 days after the onset of AFP had contact 4 to 40 days before the paralysis began with a person who received OPV somewhere between 4 and 85 days before the contact's paralysis began.

Polio-compatible

- ◆ A case with no or inadequate stool specimens, polio-compatible residual paralysis at 60 days, or death takes place within 60 days, or the case is lost to follow-up which received this classification after expert panel review.

Discarded as non-polio (including cases with sabin-like isolate)

- ◆ A case with adequate stool specimens which tested negative for poliovirus, a case with inadequate stool specimens with no residual paralysis at 60 days and expert panel review. Cases with Sabin-like poliovirus isolation are also considered non-polio, even if classified as VAPP as purpose of AFP surveillance is to find wild poliovirus and VDPV cases.

ACUTE FLACCID PARALYSIS POLIOMYELITIS ICD 10 CODE: A80.0

60-day Follow-up

- ◆ A follow-up visit to an AFP case is important to determine the presence of residual paralysis.
- ◆ Follow up visit to all AFP cases should be done 60 days from paralysis onset to check for residual paralysis
- ◆ Priority should be given to AFP cases that falls in any of the following:
 - ⇒ AFP Hot case
 - ⇒ Stool samples not collected or collected beyond 14 days from paralysis onset
 - ⇒ AFP cases suspected as polio
- ◆ For cases with inadequate stool specimen or cases classified as polio-compatible, a complete follow-up neurologic evaluation should be conducted by a physician or a trained health worker to determine if the neurologic deficits are highly suggestive or compatible with polio.
- ◆ The patient may be declared “lost to follow-up” only after three failed attempts to locate him or her within 90 days after paralysis onset.
- ◆ Death of the patient before the 60-day follow-up should be reported immediately to RESU and NEC.

◆ **Laboratory Confirmation:**

- ◆ Viral isolation from stool samples.
- ◆ All AFP cases should have two stool specimens collected 24 hours apart within 14 days from the paralysis onset.
- ◆ The prescribed amount of stools to be sent should be the size of an adult’s thumb. For watery stool specimen, collect and fill at least $\frac{3}{4}$ (or at least 5ml) of the stool specimen container. Attach a copy of the duly accomplished CIF enclosed in a separate plastic bag.
- ◆ It is crucial that all stool specimens are stored in the body of a refrigerator for storing specimens and transported with 4 frozen ice packs to the National Polio Laboratory (NPL) of the Research Institute for Tropical Medicine.
- ◆ If all these requirements are being met, stool specimens are considered “adequate”.

Outbreak Investigation and Control:

- ◆ In the current standard definitions of the Global Polio Eradication Initiative (GPEI), **in a polio-free countries, an outbreak represents as a single laboratory confirmed poliovirus-associated case.**
- ◆ Since the Philippines is already certified “Polio Free”, a single wild poliovirus detection is considered a **national public health emergency**. A suspicion of wild poliovirus importation merits immediate and complete investigation.
- ◆ Tracing and investigation of close contacts (same household or any enclosed quarters/ facility) is an important part of investigation.
- ◆ In case a wild poliovirus is isolated, follow the National Preparedness Plan for Wild Poliovirus Importation or VDPV.



ACUTE HEMORRHAGIC FEVER SYNDROME

ICD 10 CODE: A94

Description:

- ◆ A febrile syndrome associated with bleeding manifestations.
- ◆ Acute hemorrhagic fever syndromes can be attributable to Ebola-Marburg viral diseases, Lassa fever, yellow fever, Rift Valley fever, Hantavirus infections, Crimean-Congo hemorrhagic fever, and other viral, bacterial or rickettsial diseases with potential to cause epidemics.

Importance of Surveillance:

- ◆ In the syndromic approach of the revised International Health Regulations (IHR), all cases of acute hemorrhagic fever syndrome whether single or in clusters, should be notified early, without waiting for the causal agent to be identified.
- ◆ Surveillance of acute hemorrhagic fever syndrome is aimed at early detection of cases in order to avoid epidemics and the possible international spread of the disease.

Standard Case Definition/ Case classification

Any hospitalized person with acute onset of fever of less than 3 weeks duration and with any two of the following:

1. Haemorrhagic or purpuric rash,
2. Epistaxis (nose bleeding),
3. Hematemesis (vomiting of blood),
4. Hemoptysis (coughing out blood),
5. Blood in stools, and/or
6. Other hemorrhagic symptoms

AND the diagnosis is not laboratory confirmed Dengue.

Laboratory Confirmation:

- ◆ Isolation of organism through blood culture.
- ◆ Detection of genomic sequences by polymerase chain reaction (PCR).

Case detection and Reporting:

- ◆ .Report all cases every FRIDAY of the week to the next higher level using the Case Report Form (CRF).

Outbreak Investigation and Control:

- ◆ Investigate all suspected / reported outbreaks.
- ◆ Active case finding and contact tracing.
- ◆ Identify all cases and contacts.
- ◆ Assess and monitor the spread of an outbreak.



ACUTE VIRAL HEPATITIS

ICD 10 CODE: B15 – B17

Description:

- ◆ Acute viral illness typically includes acute jaundice, dark urine, anorexia, malaise, extreme fatigue, and right upper quadrant tenderness caused by hepatitis A, B, C, D and E virus.
- ◆ Laboratory results of increased urine urobilinogen and >2.5 times the upper limit of serum alanine aminotransferase.
- ◆ Most infections occur in early childhood. A variable proportion of adult infections are asymptomatic.
- ◆ Transmission is mainly orofecal for hepatitis A and E, body fluids for hepatitis B, C, and D.
- ◆ The course of the disease may be fulminating (e.g., hepatitis E in pregnancy); chronic infection and severe sequelae occur for hepatitis B, C, and D.

Importance of Surveillance:

- ◆ Estimates suggest that worldwide, there are 385 million carriers of hepatitis B virus and 170 million carriers of hepatitis C virus. More than 1 million deaths each year are attributable to hepatitis B.
- ◆ Hepatitis B is targeted by WHO for reduced incidence/prevalence.
- ◆ The early detection of epidemics through epidemiological surveillance allows for identification of the causal agent and the institution of targeted control measures and effective case management.

Standard Case Definition/ Case classification

Suspected Case: A person with acute illness characterized by acute jaundice, dark urine, loss of appetite, body weakness, extreme fatigue, and right upper quadrant tenderness.

Probable Case: Not applicable

Confirmed Case: A suspected case that is laboratory confirmed.

Laboratory Confirmation:

- ◆ Hepatitis A: positive for *IgM anti-HAV*.
- ◆ Hepatitis B: positive for Hepatitis B surface antigen (HBsAg) or positive for *IgM anti-HBc and antiHBe*.
- ◆ Non-A, non-B: negative for *IgM anti-HAV* and *IgM anti-HBs* (or HBsAg).

For patients negative for hepatitis A or B, further testing for a diagnosis of acute hepatitis C, D, or E is recommended:

- ◆ Hepatitis C: anti-HCV positive.
- ◆ Hepatitis D: HBsAg positive or IgM anti-HBc positive PLUS anti-HDV positive (only as co-infection or super-infection of hepatitis B).
- ◆ Hepatitis E: *IgM anti-HEV* positive.

Case detection and Reporting:

.Report all cases every FRIDAY of the week to the next higher level using the Case Report Form (CRF).

Outbreak Investigation and Control:

- ◆ Investigate all suspected / reported outbreaks.
- ◆ Determine the specific cause of acute viral hepatitis cases (reported routinely or during outbreaks), so that corrective measures can be taken.
- ◆ Evaluate the effectiveness of injection safety programs.
- ◆ Control measures include transfusion safety, safe and appropriate use of injections and/or needles (for hepatitis A and hepatitis B) immunization.
- ◆ Improve personal hygiene especially the food handlers (Proper food hygiene).
- ◆ Proper waste disposal of infected person.



ADVERSE EVENTS FOLLOWING IMMUNIZATION

ICD 10 CODE: T88.1

Description:

- ◆ Vaccines used in national immunization programs are extremely safe and effective. But, no vaccine is perfectly safe and adverse events can occur following immunization. In addition to the vaccines themselves, the process of immunization is a potential source of adverse events.
- ◆ **Public alert** on vaccine safety has increased through awareness and increased access to the information such as internet. Also, the vigilance of health care providers on vaccine safety has increased mainly because of the strengthening of AEFI surveillance. As a result, more and more concerns on quality and safety of vaccine are highlighted and demanded by both service providers and the public.
- ◆ A serious AEFI is an event that causes a potential risk to the health/life of the recipient leading to hospitalization, disability/incapacity, congenital abnormalities/birth defects or death.
- ◆ Minor AEFI is an event that is not 'serious' and causes no potential risk to the health of recipient's health.
- ◆ Cluster of AEFI is defined as two or more cases of the same or similar event related in time, geography, and/or vaccine administered.

Importance of Surveillance:

- ◆ The continuing and systematic collection of AEFI data is essential not only for analysis and dissemination of information but also to enable decision-making and action to protect the health of populations.
- ◆ Surveillance of AEFIs is an effective means of monitoring immunization safety and contributes to the credibility of the immunization program since such events can influence community acceptance of immunization.
- ◆ AEFIs need to be rapidly and effectively dealt with to avoid undue loss of confidence in a vaccine which can have dramatic consequences for immunization coverage and disease incidence.

Standard Case Definition

- ◆ **Suspected AEFI case:** Any untoward medical occurrence which follows immunization and which does not necessarily have a causal relationship with the usage of the vaccine. The adverse event may be any unfavourable or unintended sign, abnormal laboratory finding, symptom or disease.

Case classification

CAUSE –SPECIFIC CATEGORY OF AEFI	DEFINITION
Vaccine-product related reaction	An AEFI that is caused or precipitated by a vaccine due to one or more of the inherent properties of the vaccine product.
Vaccine quality defect-related reaction	An AEFI that is caused or precipitated by a vaccine that is due to one or more quality defects of the vaccine product including its administration device as provided by the manufacturer.
Immunization error-related reaction	An AEFI that is caused by inappropriate vaccine handling prescribing or administration and thus by its nature, is preventable.
Immunization anxiety-related reaction	An AEFI arising from anxiety about immunization.
Coincidental event	An AEFI that is caused by something else other than the vaccine product, immunization error or immunization anxiety.

ADVERSE EVENTS FOLLOWING IMMUNIZATION

ICD 10 CODE: T88.1

Laboratory Confirmation:

- ◆ Laboratory testing of vaccines may sometimes confirm or rule out the suspected cause. Vaccine may be tested for sterility and adjuvant (e.g. aluminum content); the diluent for sterility and chemical composition; and the needles and syringe for sterility. Determining which samples to send, if any, depends on the working hypothesis for the cause of the event(s). If the used vial of suspect vaccine is available, it should be sent with unused vials of the same lot.
- ◆ Laboratory testing of human specimens should be handled at the local hospital and forwarded to the nearest laboratory, where facilities are available to carry out requested laboratory testing. Laboratory testing of human specimens is done for biochemical, histo-pathological and microbiological examination. If facilities for essential laboratory testing are not available at intermediate level institutions (Municipality/City/Province/Region/), sending samples to national accredited laboratory (local or abroad) need to be considered.



Note: Testing should be requested on a clear suspicion that the vaccine caused the event and not as routine, and never before the working hypothesis has been formulated.

Case detection and Reporting:

- ◆ In cases of severe AEFI, notify simultaneously the MHO, PHO, CHO, CHD, and NEC within 24 hours of detection and send an advance copy of Case Investigation Form (CIF) as soon as possible.
- ◆ All minor AEFI cases such as local reactions, fever and self-limiting systemic symptoms should be reported to PHO and CHD on a weekly basis, unless they are occurring at increased frequency or cluster.
- ◆ Not all AEFI reports will need investigation. Once the report has been received, an assessment should be done to determine whether or not an investigation is needed. The urgency of the investigation will depend on the situation. However, if it is determined that an investigation is necessary, it should be initiated as soon as possible.

The reported AEFI must be investigated if:

- a) It is a serious event of known or unknown cause.
- b) There is clustering of minor AEFI cases (2 or more cases in four weeks).
- c) It signals health events associated with newly introduced vaccine.
- d) It may have been caused by immunization error.
- e) It is on the list of events defined for AEFI surveillance.
- f) It is causing a significant parental or public concern.

Outbreak Investigation and Control:

- ◆ An AEFI investigation follows standard epidemiological investigation principles. Investigation of the vaccine(s), immunization techniques and procedures, and service in action should be conducted.
- ◆ It is not appropriate to discontinue the immunization program while awaiting the completion of the investigation. Treat all cases of AEFI (health facility or local health workers concerned).
- ◆ The LGUs shall immediately implement corrective actions based on the preliminary investigation findings and causality assessment of the regional/national AEFI committees.



ANTHRAX

ICD 10 CODE: A22

Description:

- ◆ Anthrax is a widespread zoonosis transmitted from infected animals like cattle, sheep, goats, buffaloes, pigs and other to humans by direct contact or through animal products.
- ◆ An acute bacterial disease that usually affects the skin but may also involve the oropharynx, mediastinum, or gastrointestinal tract.
- ◆ The causative organism is *Bacillus anthracis*, a Gram-positive, encapsulated, spore-forming and non-motile rod.
- ◆ The average incubation period range from 1-7 days but may extend up to 60 days.

Clinical Description:

Cutaneous Anthrax:

An acute illness, or post-mortem examination revealing a painless skin lesion developing over 2 to 6 days from a papular through a vesicular stage into a depressed black eschar with surrounding edema. Fever, malaise and lymphadenopathy may accompany the lesion.

Inhalation Anthrax:

An acute illness, or post-mortem examination revealing a prodrome resembling a viral respiratory illness, followed by hypoxia, dyspnea or acute respiratory distress with resulting cyanosis and shock. Radiological evidence of mediastinal widening or pleural effusion is common.

Gastrointestinal Anthrax:

An acute illness, or post-mortem examination revealing severe abdominal pain and tenderness, nausea, vomiting, hematemesis, bloody diarrhea, anorexia, fever, abdominal swelling and septicemia.

Oropharyngeal Anthrax:

An acute illness, or post-mortem examination revealing a painless mucosal lesion in the oral cavity or oropharynx, with cervical adenopathy, edema, pharyngitis, fever, and possibly septicemia.

Meningeal Anthrax:

An acute illness, or post-mortem examination revealing fever, convulsions, coma, or meningeal signs. Signs of another form will likely be evident as this syndrome is usually secondary to the above syndromes.

Importance of Surveillance:

- ◆ Anthrax is a serious problem and when transmitted to humans has the potential for explosive outbreaks especially the gastrointestinal form.
- ◆ While pulmonary or inhalation anthrax is mainly occupational in nature, the threat of biological warfare attacks should also be considered.
- ◆ Anthrax has a serious impact on the trade of animal products.
- ◆ Anthrax is considered a leading potential agent in bioterrorism or bio-warfare.
- ◆ Monitor and evaluate the impact of prevention activities in humans, detect outbreaks and possible bioterrorism activities and coordinate with concerned agencies for control measures in animals.

Standard Case Definition/ Case classification

Suspected Case:

An illness suggestive of one of the known anthrax clinical forms as described above. No definitive, presumptive, or suggestive laboratory evidence of *Bacillus anthracis*, or epidemiologic evidence relating it to anthrax.

ANTHRAX

ICD 10 CODE: A22

Standard Case Definition/ Case classification

Probable Case:

A clinically compatible illness that does not meet the confirmed case definition, but with one of the following:

- ◆ Epidemiological link to a documented anthrax environmental exposure;
- ◆ Evidence of *B. anthracis* in clinical specimens collected from a normally sterile site (such as blood or cerebrospinal fluid [CSF]) or lesion of other affected tissue (skin, pulmonary, reticuloendothelial, or gastrointestinal)

Confirmed Case:

A clinically compatible illness with one of the following:

- ◆ Culture and identification of *B. anthracis* from clinical specimens
- ◆ Demonstration of *B. anthracis* antigens in tissues by immunohistochemical staining using both *B. anthracis* cell wall and capsule monoclonal antibodies;
- ◆ Documented anthrax environmental exposure AND evidence of *B. anthracis* DNA in clinical specimens collected from a normally sterile site (such as blood or CSF) or lesion of other affected tissue (skin, pulmonary, reticuloendothelial, or gastrointestinal).

Laboratory Confirmation:

- ◆ Isolation of *Bacillus anthracis* from blood, lesions or discharges.
- ◆ Demonstration of *Bacillus anthracis* in a clinical specimen by microscopic examination of stained smears (vesicular fluid, blood, cerebrospinal fluid, pleural fluid, stools).
- ◆ Positive serology (ELISA, Western blot, toxin detection, chromatographic assay, fluorescent antibody test [FAT]).



Note: It may not be possible to demonstrate *Bacillus anthracis* in clinical specimens if the patient has been treated with antimicrobial agents.

Case detection and Reporting:

- ◆ .All cases of human anthrax should be investigated.
- ◆ Notify simultaneously the PHO, CHD and NEC within 24 hours of detection and send an advance copy of the Case Investigation Form (CIF) as soon as possible.

Outbreak Investigation and Control:

- ◆ Investigate all suspected / reported outbreaks through identification of population at risk and potentially contaminated animal sources and products.
- ◆ The control of anthrax is based on its prevention in livestock. Programs based only on prevention in humans are costly and likely to be ineffective except for those industrially exposed.
- ◆ There is an effective vaccine recommended for those high risk or occupationally exposed persons.
- ◆ Vaccines are also available for livestock particularly for herds with ongoing exposure to contaminated soil. surveillance and response.
- ◆ Close collaboration with the BAI, DA for undertaking.



BACTERIAL MENINGITIS

ICD 10 CODE: A87

Description:

- ◆ *Neisseria meningitidis*, *Streptococcus pneumoniae* and *Haemophilus influenzae* type b (Hib) comprise more than 75% of all cases of bacterial meningitis in most studies, and 90% of all bacterial meningitis in children.
- ◆ Meningitis due to Hib has been eliminated in many industrialized countries through successful immunization programs.
- ◆ Meningococcal disease is unique among the major causes of bacterial meningitis because it causes both endemic disease and large epidemics.

Importance of Surveillance:

Surveillance is needed to measure and detect epidemics and establish the impact of both epidemic and non-epidemic disease.

Standard Case Definition/ Case classification

Suspected Case:

- ◆ A person with sudden onset of fever ($\geq 38.5^{\circ}\text{C}$ rectal or 38°C axillary) and one of the following signs:
 - ⇒ neck stiffness,
 - ⇒ altered consciousness, or
 - ⇒ other meningeal sign, such as bulging fontanelle, Kernig's sign and/ or Brudzinski sign.

Probable Case:

- ◆ A suspected case with CSF examination showing **at least one** of the following:
 - ⇒ turbid appearance,
 - ⇒ leukocytosis (>100 cells/ mm^3) or, and/or
 - ⇒ leukocytosis (10-100 cells/ mm^3) AND either an elevated protein (>100 mg/dl) or decreased glucose (<40 mg/dl)

Confirmed Case:

- ◆ A suspected case that is laboratory-confirmed.



Note: Identified *Neisseria meningitidis* cases shall be reported as confirmed Meningococcal Disease and should be reported within 24 hours of detection to PHO, CHD and NEC.

Laboratory Confirmation:

- ◆ Culture or detection by Gram stain or antigen detection methods of a bacterial pathogen other than *Neisseria meningitidis*.

Case detection and Reporting:

- ◆ Report all cases every FRIDAY of the week to the next higher level using the Case Report Form (CRF).

Prevention and control:

- ◆ Achieve high routine immunization coverage for pentavalent vaccine (DPT-HepB-Hib) .
- ◆ Follow standard clinical management of Bacterial Meningitis for confirmed cases.



CHOLERA

ICD 10 CODE: A00

Description:

- ◆ Cholera is an acute bacterial intestinal infection caused by the enterotoxin of the bacterium *Vibrio cholerae* serogroup 01 and 0139.
- ◆ It is characterized by sudden onset of profuse, painless, watery diarrhea, nausea and vomiting. If cholera is not treated it will lead to rapid dehydration, acidosis, circulatory collapse, hypoglycemia in children and renal failure.
- ◆ It is transmitted through ingestion of food or water contaminated with vomitus or feces of infected persons.
- ◆ The incubation period is from a few hours to five days, average of 2-3 days.
- ◆ Some of the most common risk factors include: eating or drinking of contaminated foods such as uncooked seafood or shellfish from unsafe waters, lack of access to safe drinking water, eating in large gatherings of people such as weddings or funerals, and close contact with persons who died of cholera.

Importance of Surveillance:

- ◆ Cholera causes an estimated 120,000 deaths per year and is prevalent in 80 countries. The world is currently experiencing the 7th pandemic of cholera.
- ◆ Control of the disease requires appropriate surveillance. It assesses the spread and progress of the disease, plan for logistics, control & prevention measures and determines the effectiveness of control measures.
- ◆ Universal case reporting is required by the International Health Regulations.

Standard Case Definition/ Case classification

Suspected Case:

- ◆ **Disease unknown in the area:** A person aged 5 years or more with severe dehydration or who died from acute watery diarrhea, **OR**
- ◆ **Disease endemic in the area:** A person aged 5 years or more with acute watery diarrhea with or without vomiting, **OR**
- ◆ **In an area where there is a cholera epidemic:** A person with acute watery diarrhea, with or without vomiting.

Probable Case: Not applicable

Confirmed Case: A suspected case that is laboratory-confirmed.



Note: Cholera does appear in children under 5 years; however, the inclusion of all cases of acute watery diarrhea in the 2-4 year age group in the reporting of cholera greatly reduces the specificity of reporting. For management of cases of acute watery diarrhea in an area where there is a cholera epidemic, cholera should be suspected in all patients.

Laboratory Confirmation:

Isolation of *Vibrio cholerae* 01 or 0139 from stools in any patient with diarrhea.

Case detection and Reporting:

.Report all cases every FRIDAY of the week to the next higher level using the Case Report Form (CRF).

CHOLERA

ICD 10 CODE: A00

Outbreak Investigation and Control:

- ◆ Once the presence of cholera in an area has been confirmed, it becomes unnecessary to confirm all subsequent cases; shift should be made to using primarily the suspected case classification and treatment of suspected cases.
- ◆ Monitoring an epidemic should, however, include laboratory confirmation of a random of cases near same signs and symptoms on a continuing basis.
- ◆ Strengthen management and treatment of cases according to the national cholera treatment guidelines.
- ◆ When cholera appears in a community it is essential to ensure three things:
 - ⇒ proper disposal of human feces,
 - ⇒ adequate supply of safe drinking water, and
 - ⇒ proper food handling
- ◆ Health education of the population at risk and improvement of living conditions are essential preventive measures.



DENGUE

ICD 10 CODE: A90 – A91

Description:

- ◆ Dengue fever and the more severe form, dengue hemorrhagic fever, are caused by any of the four serotypes of dengue virus (types 1, 2, 3, and 4). An infected day-biting female Aedes mosquito transmits this viral disease to humans.
- ◆ In the Philippines, Aedes aegypti and Aedes albopictus are the primary and secondary mosquito vectors, respectively. The mosquito vectors breed in small amount of water collected in such as storages such as tanks, cisterns, flower vases, plant axils and backyard litter.
- ◆ The incubation period is from 3 to 14 days, commonly 4–7 days.

Importance of Surveillance:

- ◆ Dengue fever, including DHF and DSS, is the most significant arthropod borne viral disease worldwide.
- ◆ Dengue fever is a severe disease with high epidemic potential. An estimated 500 000 patients, 90% of them below the age of 15, are hospitalized with DHF / DSS every year.

Standard Case Definition/ Case classification

A. Dengue without Warning signs.

Suspected Case:

Person with acute febrile illness of 2-7 days duration plus two of the following: headache, body malaise, myalgia, arthralgia, retro-orbital pain, anorexia, nausea, vomiting, diarrhea, flushed skin, rash (petecheal, Herman's sign).

Probable Case:

A suspected case and with a Laboratory test result of a, CBC with leucopenia with or without thrombocytopenia and/or a positive Dengue NS1, antigen test or dengue IgM antibody test

Or;

A suspected case and with leucopenia with or without thrombocytopenia and/or positive Dengue NS1, antigen test or positive dengue IgM antibody test

Confirmed Case:

A suspected case with positive results for:

⇒ Viral culture isolation, and/or Polymerase Chain Reaction (PCR)

B. Dengue with Warning Signs

Person with acute febrile illness of 2-7 days duration plus any one of the following:

- ⇒ Abdominal pain or tenderness
- ⇒ Persistent vomiting
- ⇒ Clinical signs of fluid accumulation
- ⇒ Mucosal bleeding
- ⇒ Lethargy, restlessness
- ⇒ Liver enlargement, and/or
- ⇒ Laboratory: increase in Hct and/or decreasing platelet count.

DENGUE

ICD 10 CODE: A90 – A91

Standard Case Definition/ Case classification

C. Severe Dengue

A person with acute febrile illness of 2-7 days duration and any of the clinical manifestations for dengue with or without warning signs, Plus any of the following:

Severe plasma leakage leading to:

- ⇒ Shock, and/or
- ⇒ Fluid accumulation with respiratory distress,

Severe bleeding, and/or

Severe organ impairment:

- ⇒ Liver: AST or ALT >1000,
- ⇒ CNS: e.g. seizures, impaired consciousness,
- ⇒ Heart: e.g. myocarditis, and/or
- ⇒ Kidneys: e.g. renal failure.

Laboratory Confirmation:

- ◆ Isolation of the dengue virus from serum, plasma or leukocytes.
- ◆ Demonstration of a fourfold or greater change in reciprocal IgG or IgM antibody titers to one or more dengue virus antigens in paired serum samples.
- ◆ Detection of viral genomic sequences in serum or CSF samples by polymerase chain reaction (PCR).

Case detection and Reporting:

- ◆ .Report all cases every FRIDAY of the week to the next higher level using the Case Report Form (CRF).

Outbreak Investigation and Control:

- ◆ Educate the public and promote behaviors to remove, destroy or manage mosquito breeding sites, which are usually artificial water-holding containers close to or inside human habitations like roof gutters, old tires, flowerpots, discarded containers and water storage.
- ◆ To conduct simultaneous weekly clean-up drive.
- ◆ Survey the community to:
 - ⇒ determine the abundance of vector mosquitoes,
 - ⇒ identify the Aedes mosquito breeding sites, and/or
 - ⇒ promote and implement plans for mosquito and larval elimination
 - ⇒ a monthly larval survey to be conducted by sanitary inspectors
- ◆ Promote personal protection against mosquitoes through the use of screening of homes and school.



DIPHTHERIA

ICD 10 CODE: A36

Description:

- ◆ Diphtheria is an infectious disease spread (from person to person) by respiratory droplets through coughing and sneezing.
- ◆ Diphtheria usually affects the tonsils, pharynx, larynx and occasionally other mucus membranes or skin.
- ◆ The incubation period is usually 2 to 5 days (range 1-10 days).

Importance of Surveillance:

- ◆ Diphtheria is a widespread severe infectious disease that has potential for epidemics. The control of diphtheria is based on the following measures:
 - ⇒ **Primary prevention** of disease by ensuring high population immunity through immunization.
 - ⇒ **Secondary prevention** of spread through rapid investigation of close contacts, in order to ensure proper treatment.
 - ⇒ **Tertiary prevention** of complications and deaths through early diagnosis and proper management.
- ◆ The purposes of diphtheria surveillance and reporting are:
 - ⇒ to assist in diagnosis of cases and ensure prompt and appropriate treatment;
 - ⇒ to prevent outbreaks or limit their scope by timely identification of contacts, and provision of appropriate prophylaxis;
 - ⇒ to help guide an appropriate community-wide response if a diphtheria outbreak occurs.
- ◆ Any probable or confirmed case must be investigated.
- ◆ Surveillance data can be used to monitor levels of immunization coverage (target >95%) and disease as a measure of the impact of control programs. Recent epidemics have highlighted the need for adequate surveillance and epidemic preparedness.

Standard Case Definition

Probable Case:

- ◆ A person with an illness of the upper respiratory tract characterized by laryngitis or pharyngitis or tonsillitis, and adherent membranes on tonsils, pharynx and/or nose.

Confirmed Case:

- ◆ A probable case that is laboratory confirmed or linked epidemiologically to a laboratory-confirmed case.



Note: Persons with positive *Corynebacterium diphtheriae* cultures who do not meet the clinical description (i.e. asymptomatic carriers) should not be reported as probable or confirmed diphtheria cases.

Laboratory Confirmation:

- ◆ Isolation of *Corynebacterium diphtheriae* from a clinical specimen. Because diphtheria can progress rapidly, the initial diagnosis must be made on the basis of clinical presentation so that presumptive therapy can be started quickly.
- ◆ Specimens for culture should be obtained as soon as diphtheria is suspected, even if treatment with antibiotics has already begun. Swabs should be taken from the nose and throat, with care to swab under the edge of the membrane, if present.



Note: A rise in serum antibody (fourfold or greater) is of interest only if both serum samples were obtained before administration of diphtheria toxoid or antitoxin. This is not usually the case in surveillance, where serological diagnosis of diphtheria is thus unlikely to be an issue.

DIPHTHERIA

ICD 10 CODE: A36

Case Detection and Reporting:

- ◆ .Report all cases every FRIDAY of the week to the next higher level using the Case Report Form (CRF).

Outbreak Investigation and Control:

- ◆ Investigate outbreaks to understand epidemiology, determine why the outbreak occurred (e.g., vaccine failure, failure to immunize, accumulation of susceptibles, waning immunity, new toxigenic strain), and ensure proper case management.
- ◆ Management of contacts: All close contacts should have culture of specimens taken from their nose and throat and be kept under surveillance for 7 days. (for positive culture, start antibiotics for 14 days).
- ◆ Specimens for laboratory confirmation should ideally be collected before the initiation of antibiotics treatment.
- ◆ Probable diphtheria cases should receive antibiotics to eradicate carriage of *C. diphtheria*.
- ◆ Follow-up of defaulters: DPT/Pentavalent vaccine in coordination with EPI Managers
- ◆ Vaccinate contacts of cases with a diphtheria-containing vaccine appropriate for age.
- ◆ During outbreaks, clinical diagnosis based on typical pseudomembranous pharyngitis is quite reliable. Although laboratory investigation of suspected cases is strongly recommended, treatment should not be delayed while waiting for the laboratory results.

Treatment for Diphtheria

- ◆ During outbreaks, clinical diagnosis based on typical pseudomembranous pharyngitis is quite reliable.
- ◆ Although laboratory investigation of suspected cases is strongly recommended, treatment should not be delayed while waiting for the laboratory results.
- ◆ Urgent treatment of diphtheria is mandatory to reduce complications and mortality.
- ◆ **The mainstay of treatment is intramuscular or intravenous administration of diphtheria antitoxin (DAT).** Antitoxin only neutralizes circulating toxin that has not yet been taken up intracellularly.
- ◆ Antibiotics are given to stop infection and toxin production, and to eradicate *C. diphtheriae* carriage and on-going transmission. Both penicillin and erythromycin are usually effective. Treatment should be given parentally until the patient can swallow with ease.



Diphtheria Antitoxin (DAT) Treatment protocol:

- ⇒ Diphtheria antitoxin is made from the serum of horses that were hyperimmunized with diphtheria toxoid. **Sensitivity testing must be performed prior to DAT administration.**
- ⇒ If diphtheria is strongly suspected, treatment with DAT should be given immediately without waiting for laboratory results.
- ⇒ DAT should be injected in the early stage.
- ⇒ The recommended DAT dose depends on the site, extent and duration of disease, varying from 20,000–100,000 units in a single intravenous (IV) or intramuscular (IM) dose.
- ⇒ DAT is the passive antibody existing only for a short time. The combination of antitoxin and vaccine is recommended and they should be injected in different sites.



HAND, FOOT AND MOUTH DISEASE (HFMD)

ICD 10 CODE: B08.4

Description:

- ◆ Hand, foot and mouth disease (HFMD) is a common infectious disease caused by a group of enteroviruses, including Coxsackievirus A16 (CA16) and Enterovirus 71 (EV71). Infection with EV71 is of particular concern as it can cause severe disease in children, sometimes resulting in death.
- ◆ Hand, foot and mouth disease is characterized by a brief febrile illness in children and typical skin rash, with or without mouth ulcers. Typically, the rash is papulovesicular and affects the palms or soles of the feet, or both. However, cases involving the central nervous system (CNS) and / or pulmonary edema have also been observed.
- ◆ In some cases, the rash may be maculopapular without vesicles, and may also involve the buttocks, knees or elbows, particularly in younger children and infants.
- ◆ The most common clinical problem associated with HFMD is dehydration, a result of inadequate intake of fluid secondary to odynophagia caused by painful mouth ulcers.
- ◆ HFMD is spread from person to person by direct contact with the infectious viruses that cause this disease. These viruses are found in the nose and throat secretions (such as saliva, sputum, or nasal mucus), fluid in blisters, and stool of infected persons. The viruses may be spread when infected persons touch objects and surfaces that are then touched by others.
- ◆ Infected persons are most contagious during the first week of the illness. The viruses that cause hand, foot, and mouth disease can remain in the body for weeks after a person's symptoms have gone away. This means that infected people can still pass the infection to others even though they may appear well. Also, some people who are infected and shedding the virus, including most adults, may have no symptoms.
- ◆ Enteroviruses can be excreted in the stools for up to six weeks and in throat secretions for up to two weeks.
- ◆ The incubation period is from 3 to 7 days.

Importance of Surveillance:

- ◆ Adequate and functioning surveillance systems are needed to provide timely data and information for risk assessments and subsequent decision-making about appropriate public health interventions. These are also essential for monitoring and evaluating the impact of such interventions.
- ◆ The intensive case-based surveillance is used to detect, investigate and confirm clusters of suspected HFMD case in the community.

Standard Case Definition/ Case classification

Suspected Case of HFMD:

Any individual, regardless of age, who developed acute febrile illness with papulovesicular or maculopapular rash on palms and soles, with or without vesicular lesion/ulcers in the mouth.

Probable Case of HFMD:

A suspected case that has not yet been confirmed by a laboratory test, but is geographically and temporally related to a laboratory-confirmed case.

Confirmed Case of HFMD:

A suspected case with positive laboratory result for human Enteroviruses that cause HFMD.

HAND, FOOT AND MOUTH DISEASE (HFMD)

ICD 10 CODE: B08.4

Standard Case Definition/ Case classification

Suspected Case of Severe Enteroviral Disease:

Any child less than ten (10) years of age: with fever plus any severe signs and symptoms referable to central nervous system involvement, autonomic nervous system dysregulation or cardiopulmonary failure;

OR a suspect or probable HFMD case with complications;

OR who died < 48hours after presenting with fever and CNS involvement.

Confirmed Case of Severe Enteroviral Disease:

A suspected case of severe enteroviral disease that has positive laboratory results for EV 71.

Laboratory Confirmation:

1. Reverse transcriptase – polymerase chain reaction (RT-PCR)
2. Virus Isolation
3. PCR genome sequencing

Case detection and Reporting:

- ◆ .Specimens shall be taken only from suspected cases of HFMD who are admitted/ consulted in the regional hospitals.
- ◆ Collection, storage and transport of specimens shall be facilitated through the designated disease surveillance coordinator in coordination with the RESU.
- ◆ Report all cases every FRIDAY of the week to the next higher level using the Case Report Form (CRF).

Outbreak Investigation and Control:

- ◆ Investigate all suspected / reported outbreaks.
- ◆ Collect specimen samples to confirm the outbreak (vesicular lesions, stool, rectal swab and throat swab.
- ◆ Conduct information and education campaigns on good hygiene and basic sanitation to reduce spread of disease.
- ◆ Mobilize the community early to enable rapid case detection and treatment.
- ◆ Provide assistance to kindergartens, daycare facilities and schools during outbreaks to protect children, reduce transmission or delay spread of disease to the community.
- ◆ Conduct contact tracing.
- ◆ Strengthening infection control measures both in health care facilities and in the community.
- ◆ Coordinated risk communication to increase awareness of the risk through provision of accurate and consistent messages to the public.
- ◆ Educate preschoolers& school teachers about the importance of frequent proper handwashing.
- ◆ Advise teacher and guardian to instruct student not to go to school if with signs and symptoms of HFMD, and report to MHO/PH if with there is an increasing cases in their facilities for us to investigate and probably reduce its transmission.



INFLUENZA-LIKE ILLNESS

ICD 10 CODE: J10, J11

Description:

- ◆ An acute viral disease of the respiratory tract characterized by fever, headache, myalgia, prostration, coryza, sore throat and severe cough.
- ◆ The incubation period is usually 1-3 days and patient recovery is usually 2–7 days.
- ◆ Influenza-like illness may be clinically indistinguishable from disease caused by other respiratory viruses, such as common cold, croup, bronchiolitis, viral pneumonia and undifferentiated acute respiratory disease.
- ◆ Disease transmission is through airborne spread among crowded populations in enclosed spaces wherein the influenza virus may persist for hours, particularly in the cold and in low humidity.
- ◆ Transmission may also occur through direct contact. New subtypes may be transmitted globally within 3–6 months.
- ◆ Severe illness and death during annual influenza epidemics occur primarily among the elderly and those debilitated by chronic cardiac, pulmonary, renal or metabolic disease, anemia or immunosuppression.

Importance of Surveillance:

- ◆ Surveillance of influenza-like illness is very important because of the rapidity with which influenza epidemics develop, its extensive morbidity and the seriousness of complications like viral and bacterial pneumonias.
- ◆ Surveillance of influenza is essential for the early detection of new viruses with new surface proteins that can cause pandemics ranking as global health emergencies (e.g. 1918, 1957, 1968) with millions of deaths (40 million in 1918).
- ◆ The early detection and characterization of these viruses allows for timely annual updates of a vaccine that can prevent deaths and alleviate illness in vulnerable groups of the population.

Standard Case Definition

Suspected case:

A person with sudden onset of fever of $\geq 38^{\circ}\text{C}$ AND cough or sore throat in the absence of other diagnoses.



Note: The onset of fever should be within three days of presentation and fever should be measured at the time of presentation.

Case classification

Probable Case:

Not applicable.

Severe Acute Respiratory Infection:

Meets ILI case definition and shortness of breath or difficulty breathing and requires hospital admission.

Influenza Case:

A patient with ILI or SARI and laboratory confirmation of influenza infection through Ribonucleic Acid (RNA) detection, antigen detection or virus isolation.

Suspected Human Avian Influenza:

A suspect ILI case with exposure to sudden bird deaths (sudden bird deaths in two or more households in a barangay or death of at least 3% of commercial flock increasing twice daily for 2-3 consecutive days) OR confirmed human avian influenza case.

Suspected Severe Acute Respiratory Syndrome (SARS) case:

A suspect ILI case with exposure to confirmed SARS case.

INFLUENZA-LIKE ILLNESS

ICD 10 CODE: J10, J11

Laboratory Confirmation:

- ◆ Viral isolation or Polymerase Chain Reaction (PCR) of throat swab or aspirate from the suspected individual or direct detection of influenza viral antigen or 4-fold rise in antibody titer between early and late serum.

Case detection and Reporting:

- ◆ .Report all cases every FRIDAY of the week to the next higher level using the Case Report Form (CRF).
- ◆ In cases of Severe Acute Respiratory Infection (SARI), Suspected Human Avian Influenza and Suspected Severe Acute Respiratory Syndrome (SARS) case, notify simultaneously the PHO, CHD and NEC within 24 hours of detection and send an advance copy of the Case Investigation Form (CIF) as soon as possible.

Outbreak Investigation and Control:

- ◆ Conduct epidemiological studies and promptly identify viruses.
- ◆ Surveillance by health authorities of the extent and progress of outbreaks and reporting of findings to the community are important.
- ◆ The response to influenza pandemic must be planned at all level of health services.
- ◆ Hospital administrators must anticipate the increased demand for medical care during epidemic periods.
- ◆ Health care personnel should be immunized annually for free.
- ◆ Maintaining adequate supplies of antiviral drugs to treat high-risk patients and essential personnel in the event of the emergence of a new pandemic strain where no vaccine is yet available.
- ◆ Immediately report to PHO,CHD and NEC if there is an increasing number of cases especially those cases with history of travel to an endemic area (country).
- ◆ Conduct information and education campaigns on good hygiene and basic sanitation.



LEPTOSPIROSIS

ICD 10 Code: A27

Description:

- ◆ Leptospirosis is a group of zoonotic bacterial diseases with variable manifestations.
- ◆ Disease transmission may be through: contact of the skin, especially if abraded, or of mucous membranes with moist soil, vegetation (rice fields, sugarcane plantation) contaminated with the urine of infected animals or contaminated water, as in swimming, wading in floodwaters, accidental immersion or occupational abrasion; direct contact with urine or tissues of infected animals.
- ◆ Rarely through drinking of water and ingestion of food contaminated with urine of infected animals, often rats; through inhalation of droplet aerosols of contaminated fluids.
- ◆ The incubation period is usually 10 days with a range of 2–30 days.
- ◆ The disease is characterized by sudden onset of fever, headache, chills, severe myalgia (calves and thighs) and conjunctival suffusion. Other manifestations that may be present are diphasic fever, meningitis, rash (palatal exanthem), hemolytic anemia, hemorrhage into skin and mucous membranes, hepato-renal failure, jaundice, mental confusion and depression, myocarditis and pulmonary involvement with or without hemorrhage and hemoptysis.
- ◆ In endemic areas the majority of infections are subclinical or too mild to be diagnosed definitively.
- ◆ Clinical illness lasts from a few days to 3 weeks or longer. Generally there are two phases in the illness: the leptospiremic or febrile, lasting 4 to 9 days, followed by the convalescent or immune phase on the sixth to twelfth day. Recovery of untreated cases can take several months.
- ◆ Deaths are predominantly due to renal failure, cardiopulmonary failure and massive hemorrhage.
- ◆ The case-fatality rate is low but increases with advancing age and may reach 20% or more in patients with jaundice and kidney damage (Weil's disease) who have not been treated with renal dialysis.
- ◆ Late sequelae may occur like chronic fatigue, neuropsychiatric symptoms (paresis, depression) and occasional uveitis.

Importance of Surveillance:

- ◆ Surveillance provides the basis for intervention strategies in human or veterinary public health.
- ◆ Leptospirosis is probably under reported in many countries because of difficult clinical diagnosis and lack of diagnostic laboratory services.

Standard Case Definition/ Case classification

Suspected Case:

A person who developed acute febrile illness with headache, myalgia and prostration associated with any of the following:

- ⇒ Conjunctival suffusion
- ⇒ Meningeal irritation
- ⇒ Anuria or oliguria and/or proteinuria
- ⇒ Jaundice
- ⇒ Hemorrhages (from the intestines or lungs)
- ⇒ Cardiac arrhythmia or failure
- ⇒ Skin rash

Possibly **AFTER** exposure to infected animals or an environment contaminated with animal urine (e.g. wading in flood waters, rice fields, drainage).

Probable Case:

- A suspected case in an ongoing epidemic or epidemiological linked to a confirmed case
- OR** a clinically tested positive by Rapid Test Kits

Confirmed Case: A suspect case that is laboratory confirmed.

LEPTOSPIROSIS

ICD 10 Code: A27

Laboratory Confirmation:

- ◆ Isolation (and typing) from blood or other clinical materials through culture of pathogenic *Leptospira*.
- ◆ Positive serology, preferably Microscopic Agglutination Test (MAT) or Polymerase Chain Reaction (PCR), using a range of *Leptospira* strains for antigens that should be a representative of local strains.

Case detection and Reporting:

.Report all cases every FRIDAY of the week to the next higher level using the Case Report Form (CRF).

Outbreak Investigation and Control:

- ◆ Establish the extent of the illness by determining if household or other close contacts who are ill or have been ill.
- ◆ Minimize contact with fresh water, mud, and vegetation that might be contaminated with the urine of infected animals, especially rodents.
- ◆ Wear protective clothing, such as waterproof boots or waders, when participating in recreational or work activities that might result in contact with contaminated water.
- ◆ Collaborative outbreak response with Bureau of Animal Industry-Department of Agriculture.



MALARIA

FALCIPARUM: (ICD-10 CODE: B50)
VIVAX: (ICD-10 CODE: B51)

MALARIAE: (ICD-10 CODE: B52)
OVALE: (ICD-10 CODE: B53)

Description:

- ◆ A parasitic disease caused by 4 protozoan parasites with asexual and sexual phases: *Plasmodium falciparum*, *Plasmodium vivax*, *Plasmodium ovale* and *Plasmodium malariae*.
- ◆ Disease transmission is through the bite of an infective female *Anopheles* mosquito. Most species feed at night; some important vectors also bite at dusk or in the early morning.
- ◆ The incubation period is approximately 9–14 days for *P. falciparum*, 12–18 days for *P. vivax* and *P. ovale*, and 18–40 days for *P. malariae*. Some strains of *P. vivax*, mostly from temperate areas, may have incubation period of 8–10 months and longer.
- ◆ Infections with the 4 human types of malaria can present symptoms sufficiently similar to make species differentiation impossible without laboratory studies. The fever pattern of the first few days of infection resembles that in early stages of many other illnesses (bacterial, viral and parasitic).
- ◆ Mixed infections are frequent in endemic areas.

Importance of Surveillance:

- ◆ Malaria is the most highly prevalent tropical disease, with high morbidity and mortality and high economic and social impact. The 4 elements of the Global Strategy for Malaria Control are:
 - ⇒ Provision of early diagnosis and treatment.
 - ⇒ Planning and implementing selective and sustainable preventive measures, including vector control.
 - ⇒ Early detection, containment and prevention of epidemics.
- ◆ Strengthening local capacities in basic and applied research to permit and promote the regular assessment of a country's malaria situation, in particular the ecological, social and economic determinants of the disease.

Standard Case Definition/Case Classification

- ◆ **Uncomplicated malaria:**
 - ⇒ Signs and symptoms vary; most patients experience fever. Splenomegaly and anemia are common associated signs. Common but non-specific symptoms include otherwise unexplained headache, back pain, chills, sweating, myalgia, nausea, vomiting.
- ◆ **Severe malaria:**
 - ⇒ Coma, generalized convulsions, hyperparasitemia, normocytic anemia, disturbances in fluid, electrolyte, and acid-base balance, renal failure, hypoglycemia, hyperpyrexia, hemoglobinuria, circulatory collapse/shock, spontaneous bleeding (disseminated intravascular coagulation) and pulmonary edema.
- ◆ **In areas WITHOUT access to laboratory-based diagnosis:**
 - ⇒ **Probable uncomplicated malaria case:** A person with signs (fever, splenomegaly, anemia) and/or symptoms (unexplained headache, back pain, chills, sweating, myalgia, nausea, vomiting) of malaria who receives anti-malarial treatment.
 - ⇒ **Probable severe malaria case:** A person who requires hospitalization for symptoms and signs of severe malaria (coma, generalized convulsions, hyperparasitemia, normocytic anemia, disturbances in fluid, electrolyte, and acid-base balance, renal failure, hypoglycemia, hyperpyrexia, hemoglobinuria, circulatory collapse/shock, spontaneous bleeding, disseminated intravascular coagulation, and pulmonary edema) and receives anti-malarial treatment.
 - ⇒ **Probable malaria death:** death of a patient diagnosed with probable severe malaria

MALARIA

FALCIPARUM: (ICD-10 CODE: B50)
VIVAX: (ICD-10 CODE: B51)

MALARIAE: (ICD-10 CODE: B52)
OVALE: (ICD-10 CODE: B53)

Case Classification

◆ In areas WITH access to laboratory-based diagnosis:

- ⇒ **Asymptomatic malaria:** A person with no recent history of symptoms and/or signs of malaria who shows laboratory confirmation of parasitemia.
- ⇒ **Confirmed uncomplicated malaria case:** A person with signs (fever, splenomegaly, anemia) and/or symptoms (unexplained headache, back pain, chills, sweating, myalgia, nausea, vomiting) of malaria who receives anti-malarial treatment AND with laboratory confirmation of diagnosis.
- ⇒ **Confirmed severe malaria case:** A person who requires hospitalization for symptoms and signs of severe malaria (coma, generalized convulsions, hyperparasitemia, normocytic anemia, disturbances in fluid, electrolyte, and acid-base balance, renal failure, hypoglycemia, hyperpyrexia, hemoglobinuria, circulatory collapse/shock, spontaneous bleeding, disseminated intravascular coagulation, and pulmonary edema) and receives anti-malarial treatment AND with laboratory confirmation of diagnosis (microscopy or RDT).
- ⇒ **Confirmed malaria death:** death of a patient classified as confirmed severe malaria.
- ⇒ **Malaria Treatment Failure:** A patient with uncomplicated malaria without any clear symptoms suggesting another concomitant disease who has taken a correct dosage of anti-malarial treatment, and who presents with clinical deterioration or recurrence of symptoms within 14 days of the start of treatment, in combination with parasitemia (asexual forms).

Laboratory Confirmation:

- ◆ Demonstration of malaria parasites in blood films (mainly asexual forms).

Case detection and Reporting:

- ◆ .Report all cases every FRIDAY of the week to the next higher level using the Case Report Form (CRF).

Outbreak Investigation and Control:

- ◆ Determine the nature and extent of the epidemic situation.
- ◆ Malaria epidemics must be controlled rapidly and effective treatment of all cases must be done.
- ◆ In large epidemics where a huge part of the population is infected, mass treatment may be considered.
- ◆ Full coverage vector control measures should be instituted as soon as possible. Indoor residual spraying is preferred because of its rapid effect then followed by the use of insecticide-treated bed nets and anti-larval measures.
- ◆ Investigate all reported suspects.



MEASLES - RUBELLA

ICD 10 Code: B05

Description:

- ◆ Measles (Tigdas, Tipdas) is an acute highly communicable viral illness caused by the measles virus in the genus Morbillivirus of the family Paramyxoviridae.
- ◆ Measles is characterized by a prodrome of fever, conjunctivitis, cough, coryza, and small spots with white or bluish white centers on an erythematous base on the buccal mucosa known as Koplik spots followed by maculopapular rash on the 3rd to the 7th day beginning on the face then becoming generalized.
- ◆ It is transmitted through direct contact with nasal or throat secretions of infected persons or by articles freshly soiled with nose and throat secretions.
- ◆ The incubation period range from 7 to 21 days from exposure to onset of fever and usually 14 days until rash appears.

Importance of Surveillance:

- ◆ The Philippines is committed to eliminate measles and achieving this goal requires sustaining high levels of population immunity (>95% coverage) against measles and low incidence (less than one confirmed measles per million population) with periodic outbreaks.
- ◆ Surveillance is used to identify high-risk populations and to predict and prevent potential outbreaks.
- ◆ The intensive case-based surveillance is used to detect, investigate and confirm every suspected measles case in the community.
- ◆ Information on immunization coverage for 2 dose of measles containing vaccine and surveillance are used to assess progress towards elimination goal.

Standard Case Definition

Suspected Case:

- ◆ Any person with fever and maculopapular rash (non-vesicular) and either cough, coryza (runny nose) or conjunctivitis (red eyes)

Case classification

Laboratory confirmed measles case

- ◆ A suspected measles case that has been confirmed by the National Measles Laboratory (NML) of the Research Institute for Tropical Medicine as positive for measles IgM antibodies and/or positive for measles virus isolation or Polymerase Chain Reaction (PCR).

Laboratory confirmed rubella case

- ◆ A suspected measles case that has been confirmed by the NML as positive for rubella IgM antibodies.

Epidemiologically-linked confirmed case (measles or rubella)

- ◆ A suspect measles case that has not been confirmed by a laboratory but temporally and geographically related, with dates of rash onset occurring between 7-21 days apart, to a laboratory-confirmed case or, in the event of a chain of transmission, to another epidemiologically-linked measles case.

The following situations are considered credible and should be considered:

1. A case in the same village or urban community or
2. A case in a neighboring community with contact occurring through schools, markets and social events or
3. People who have travelled to countries known to have measles circulating during the past 7 to 21 days

***Under circumstances when there is no specimen or inadequate specimen, cases may be confirmed by epidemiological linkage.**

MEASLES - RUBELLA

ICD 10 Code: B05

Case classification

Clinically Measles Compatible Case

- ◆ A suspect measles case for which no adequate specimen was taken and which has not been linked epidemiologically to a laboratory confirmed measles case or another laboratory-confirmed communicable disease.

Discarded non-measles/non-rubella case

- ◆ A suspect case that has been investigated and discarded as a non-measles and non-rubella case using (1) laboratory testing by the NML or (2) epidemiological linkage to a laboratory-confirmed case/outbreak of another communicable disease that is neither measles nor rubella.

Measles Vaccine-associated rash illness

- ◆ A rash illness case can be classified as measles vaccine-associated only when the case meets all five of the following criteria:
 - ⇒ The case had a rash illness, with or without fever, but did not have cough or other respiratory symptoms related to measles infection at the time of the rash.
 - ⇒ The rash began 7 to 14 days after vaccination with a measles-containing vaccine.
 - ⇒ The blood specimen, which was positive for measles IgM, was collected 8 – 56 days after vaccination.
 - ⇒ Thorough field investigation did not identify any secondary cases.
 - ⇒ Field and laboratory investigations failed to identify other causes.
- ◆ Alternatively, a suspected case from which virus was isolated and found to be a vaccine strain (e.g. genotype A) should be considered as measles vaccine-associated rash illness.



Note: A measles vaccine-associated “case” is not counted as a non-measles non-rubella “case”.

Determining whether a case is endemic or imported

Endemic measles transmission

- ◆ The existence of continuous transmission of indigenous or imported measles virus that persists for at least 12 months in any defined geographic area.

Endemic measles case

- ◆ A laboratory or epidemiologically-confirmed measles case resulting from endemic transmission of the measles virus.

An imported measles case

- ◆ A case with virological and/or epidemiological evidence of exposure outside the concerned country prior to rash onset.

How to decide whether a new confirmed measles case is locally acquired or imported?

Two questions must be asked in establishing this: (1) On what day did the rash appear? And (2) What is the travel history of the person in the last month? Meaning, how long has the person been in this country and where was he/she before?

- ◆ If a person has been continuously residing in the Philippines for at least seven days before rash onset, then the case was locally-acquired in the country unless proven otherwise.
- ◆ If a person has been in the Philippines for less than seven days before rash onset, then the case was imported.

MEASLES - RUBELLA
ICD 10 Code: B05

Laboratory Confirmation:

IgM Antibody Detection

- ◆ Serum samples for IgM antibody detection
- ◆ Dried blood spot (DBS) method

Virus Isolation

- ◆ Nasopharyngeal swab (NPS) and/or oropharyngeal swab (OPS) for virus isolation

Polymerase Chain Reaction (PCR)

- ◆ Oral fluids using OraCol for PCR genotyping

Case detection and Reporting:

- ◆ All suspected measles cases should be investigated within 48 hours of detection.
- ◆ Blood specimen must be collected from all suspected measles cases to test for measles-specific IgM antibodies within 4-28 days from onset of rash.
- ◆ Collection of nasopharyngeal swab should be done within 5 days from onset of rash.
- ◆ Notify simultaneously the PHO, CHD and NEC within 24 hours of detection and send an advance copy of the Case Investigation Form (CIF) as soon as possible.

Outbreak Investigation and Control:

- ◆ Investigate all suspected / reported outbreaks.
- ◆ Determine the reasons for the outbreak occurrence:
 - ⇒ unvaccinated individuals
 - ⇒ vaccine failure
 - ⇒ accumulation of susceptibles
- ◆ Collect blood samples to confirm the outbreak. For every chain of transmission, collect NPS/OPS to identify specific strain causing the outbreak.
- ◆ There is no specific treatment for measles. Vit. A reserve fall rapidly (esp. in malnourished children) which further weakens immunity. Provide Vit. A. supplement to cases with clinical manifestation of measles.
- ◆ Consider supplemental vaccination activities in areas of low vaccine coverage for second dose of measles-containing vaccine following national guidelines.
- ◆ Improve routine immunization coverage for two doses of measles-containing vaccine given as:
 - ⇒ monovalent measles vaccine at age 9 months, and
 - ⇒ measles-mumps-rubella (MMR) at age 12 months
- ◆ Promptly inform the local health workers and the community to enable rapid case detection and treatment.



MENINGOCOCCAL DISEASE

ICD 10 Code: A39

Description:

- ◆ Meningococcal disease is caused by a bacterium known as *Neisseria meningitidis* (also called meningococcus). Twelve serogroups of *N. meningitidis* have been identified. The infection is transmitted from person to person through respiratory droplets or secretions.
- ◆ Close and prolonged contact (e.g. kissing, sneezing and coughing on someone, living in close quarters or dormitories, sharing eating or drinking utensils, etc.) facilitate the spread of the disease.
- ◆ The average incubation period is 4 days, ranging between 2 and 10 days.

Importance of Surveillance:

- ◆ Meningococcal meningitis is the only form of meningitis to cause epidemics. The case-fatality rate is between 5% and 15%.
- ◆ The majority of cases occur in children up to 59 mos.
- ◆ Meningococcal bivalent A, C and quadrivalent A, C, Y, W135 vaccines are available; immunization of the entire population use can and may be considered to halt epidemics due to A and C serogroup meningococci. Immunization is also indicated for people traveling to endemic areas.
- ◆ Surveillance is needed to measure and detect epidemics and establish the impact of both epidemic and non-epidemic disease.

Standard Case Definition/ Case classification

Suspected Case:

- ◆ A person with sudden onset of fever ($>38.5^{\circ}\text{C}$ rectal or $>38.0^{\circ}\text{C}$ axillary) and one or more of the following:
 - ⇒ Meningeal signs (nuchal rigidity or neck stiffness)
 - ⇒ Altered consciousness
 - ⇒ Hemorrhagic rash (petechiae or purpura)
 - ⇒ Clinical diagnosis of meningococcal disease
 - ⇒ Gram negative diplococci from CSF or blood



Note: In patients <1 year, suspect meningitis when fever is accompanied by bulging fontanels.

Probable Case:

- ◆ A suspected case as defined above plus:
 - ⇒ Clinical diagnosis of meningococcal disease
 - ⇒ Turbid CSF (with or without positive gram stain)
 - ⇒ Ongoing epidemic and epidemiological link to a confirmed case

Confirmed Case:

- ◆ A suspected or probable case as defined above plus:
 - ⇒ Isolation of *N. meningitidis* from a sterile site (CSF, blood) or
 - ⇒ Positive test for *N. meningitidis* DNA from a sterile site (CSF, blood)

Laboratory Confirmation:

- ◆ Positive CSF antigen detection or culture.

Case detection and Reporting:

- ◆ .Notify simultaneously the PHO, CHD and NEC within 24 hours of detection and send an advance copy of the Case Investigation Form (CIF) as soon as possible.

MENINGOCOCCAL DISEASE

ICD 10 Code: A39

Outbreak Investigation and Control:

- ◆ Identify the source, mode and extent of the event.
- ◆ Determine whether epidemic rates of disease indicate a need for vaccination. It is critical that serogroup information confirms that the majority of diagnosed cases are due to vaccine-preventable serogroups, usually serogroup A or serogroup C.
- ◆ Outbreak control strategy includes early diagnosis and prompt treatment, vaccination, chemoprophylaxis and risk communication.
- ◆ Distribute treatment supplies to health centers/hospitals.
- ◆ Treat according to epidemic protocol.
- ◆ Inform the public.
- ◆ Mobilize community to permit early case detection and treatment.
- ◆ Deciding when an epidemic is occurring or likely to occur
- ◆ Hyperendemic areas 15cases/100,000 per week arranged over 2 consecutive weeks. Once an epidemic is detected in a given area, a lower value (e.g. 5 cases/100,000per week) may be used.

Other situations:

- ◆ 3-4-fold increases compared with corresponding time period in previous years
- ◆ **Or** Doubling of cases from one week to the next over a period of 3 weeks.

Additional Reference:

- ◆ **Administrative Order No. 2005-0021**
(Guidelines on the management and control of meningococcal disease)



NEONATAL TETANUS

ICD 10 Code: A33

Description:

- ◆ Neonatal tetanus is an acute, often fatal disease characterized by generalized, increased rigidity and convulsive spasms of skeletal muscles caused by the spore-forming bacterium *Clostridium tetani*.
- ◆ *C. tetani* spores which are the dormant form of the organism are universally found in soil.
- ◆ Neonatal tetanus is not transmitted from person to person. The disease is acquired when dirt-containing tetanus spores enter open wounds (injections, cutting the umbilical cord) or breaks in the skin.
- ◆ The incubation period is 3 to 21 days, with an average of 6 days.
- ◆ It is particularly common in rural areas where deliveries are at home without adequate sterile procedures.
- ◆ Unclean cord care practices during delivery for neonates and lack of tetanus antibody protection from inadequately immunized mothers are the risk factors for the disease.

Importance of Surveillance:

- ◆ Neonatal tetanus (NT) is targeted by UNICEF, UNFPA and WHO for elimination as a major public health burden along with maternal tetanus.
- ◆ Elimination is defined as less than one NT case per 1000 live births in every province/municipality/city every year.
- ◆ The 3 primary strategies towards this goal are:
 - ⇒ High tetanus toxoid (TT) coverage of pregnant women.
 - ⇒ Clean delivery and facility based delivery.
 - ⇒ Identification of high risk areas and implementation of corrective action (immunization of childbearing-age women) in these areas.
- ◆ Effective surveillance is critical for identifying areas or populations at risk for NT and for monitoring the impact of interventions.

Standard Case Definition

Clinically Confirmed Case:

- ◆ Any neonate (≤ 28 days of life) that sucks and cries normally during the first 2 days of life, and becomes ill from 3 to 28 days of age and develops an inability to suck and diffuse muscle rigidity (stiffness) and spasms (jerking of the muscles), which may include trismus, clenched fists or feet, continuously pursed lips, and/or curved back (opisthotonus).
- ◆ Any neonate diagnosed as a case of tetanus by a physician.



NOTE: In calculating age of the neonate, the day of birth is considered the first day of life (i.e., the baby is 1 day old on the day he/she was born).

Laboratory Confirmation:

The case classification of NT is based solely on clinical criteria and does not depend on laboratory confirmation. NT cases reported by physicians are considered to be confirmed.

Case detection and Reporting:

- ◆ Conduct an investigation to determine the risk of other NT cases in the community
- ◆ Notify simultaneously the PHO, CHD and NEC within 24 hours of detection and send a copy of the Case Investigation Form (CIF) as soon as possible.
- ◆ Treat and manage the NT case according to national treatment protocol.
- ◆ No routine isolation precautions are needed.
- ◆ An NT case often represents a sentinel event indicating a more systemic problem. The findings from the case investigation should help to guide the nature and extent of the response.

NEONATAL TETANUS

ICD 10 Code: A33

NT Investigation and Control:

- ◆ Investigate all suspected / reported NT case or cluster of NT cases.
- ◆ When a case of neonatal tetanus is confirmed, the minimum case response is to completely immunize the mother of the case with tetanus toxoid following correct interval between doses.
- ◆ Take action to respond to other risk factors identified during the investigation such as missed opportunities for TT immunization, vaccine quality failure or unclean practices during delivery or for cord care.
- ◆ Improve the routine TT vaccine coverage through EPI and maternal immunization program activities.
- ◆ Educate and encourage all women of childbearing age to deliver in a health facility.
- ◆ Increase the number of trained birth attendants in the community.
- ◆ Improve birthing facilities.



NON-NEONATAL TETANUS

ICD 10 Code: A35

Description:

- ◆ An acute disease caused by an exotoxin of the tetanus bacillus, *Clostridium tetani*, which grows anaerobically at the site of an injury.
- ◆ The disease is characterized by painful muscular spasms.
- ◆ The first sign suggestive of tetanus in older children and adults is generalized trismus. Spasms occur, frequently induced by sensory stimuli; typical features of the tetanic spasm are the position of opisthotonus and the facial expression known as “risus sardonicus.”
- ◆ History of an injury or apparent portal of entry may be lacking.
- ◆ The incubation period usually 3–21 days, with most cases occurring within 14 days. Shorter incubation periods are associated with more heavily contaminated wounds, more severe disease and a worse prognosis.

Importance of Surveillance:

- ◆ In developing countries, non-neonatal tetanus continues to be an important cause of preventable morbidity and mortality.
- ◆ Non-neonatal tetanus also takes a terrible toll, especially in younger segments of the population.

Standard Case Definition/ Case classification

Confirmed Case:

- ◆ Acute onset of hypertonia and/or painful muscular contractions (usually muscles of the neck and jaw) and generalized muscle spasms without other apparent medical cause as reported by a health care professional.

Laboratory Confirmation:

- ◆ Laboratory confirmation is of little help because the organism is rarely recovered from the site of infection and usually there is no detectable antibody response.

Case detection and Reporting:

- ◆ .Report all cases every FRIDAY of the week to the next higher level using the Case Report Form (CRF).

Outbreak Investigation and Control:

- ◆ Tetanus is not communicable. Outbreaks occur in the context of mass casualties.
- ◆ The strategy of first choice includes immunization in infancy and early childhood, reinforced by booster doses as part of a school health program. At least three primary doses of tetanus toxoid, followed by ideally 2-3 subsequent doses, in the form of either DPT, DT, Td or TT are given by the intramuscular route.

Treatment Protocol:

- ◆ Tetanus is a medical emergency requiring hospitalization, immediate treatment with human tetanus immunoglobulin (TIG), a tetanus toxoid booster, agents to control muscle spasm, and aggressive wound care and antibiotics.
- ◆ If TIG is not available, tetanus antitoxin (TAT, equine origin) in a single large dose should be given intravenously, after testing for hypersensitivity.
- ◆ Depending on the severity of disease, mechanical ventilation and agents to control autonomic nervous system instability maybe required.
 - ◆ Adequate airway should be maintained.
 - ◆ Sedation and muscle relaxant drugs should be used as indicated to control muscle spasms.
 - ◆ Active immunization maybe initiated concurrently with treatment.



PARALYTIC SHELLFISH POISONING

ICD 10 Code: T61.2

Description:

- ◆ Seafood poisoning occurs after eating fish or shellfish containing saxitoxin made by dinoflagellates. Dinoflagellates are small marine organisms found throughout the oceans and especially in and near coral reefs. The toxins accumulate in shellfish or are passed up the food chain as smaller fishes are eaten by larger fishes or as smaller fish is eaten by larger fish.
- ◆ Exposure to saxitoxin might cause numbness of the oral mucosa within 30 minutes after ingestion. In severe poisoning, signs and symptoms typically progress rapidly, including paresthesias, a floating sensation, muscle weakness, vertigo, and cranial nerve dysfunction. Respiratory failure and death might occur from paralysis.

Importance of Surveillance:

- ◆ To estimate the magnitude of the problem and to determine trends and risk factors associated with the poisoning for the implementation of prevention and control measures.

Standard Case Definition/ Case classification

Suspected Case:

- ◆ A person who develops one or more of the following signs and symptoms after taking shellfish meal or soup:
 - ⇒ **Sensory** : paresthesias (tingling sensations on skin), numbness (lack of sensation) of the oral mucosa and lips, numbness of the extremities.
 - ⇒ **Motor**: difficulty in speaking, swallowing, or breathing, weakness or paralysis of the extremities.

Probable Case: Not applicable.

Confirmed case:

- ◆ A suspected case in which laboratory tests (biologic or environmental) have confirmed exposure.

Laboratory Confirmation:

- ◆ Detection of saxitoxin in epidemiologically implicated food, serum or urine of cases.

Case detection and Reporting:

- ◆ Notify simultaneously the PHO, CHD and NEC within 24 hours of detection and send an advance copy of the Case Investigation Form (CIF) as soon as possible.

Outbreak Investigation and Control:

- ◆ Investigate all suspected / reported outbreaks.
- ◆ Investigation on PSP cases should include food implicated and laboratory confirmation.
- ◆ Control measures include avoidance of eating mollusks locally harvested from areas known to contaminated by red tides.



PERTUSSIS

ICD 10 Code: A37

Description:

- ◆ Pertussis or whooping cough is a highly communicable disease of the respiratory tract caused by *Bordetella pertussis*.
- ◆ The initial stage of the disease has an insidious onset with an irritating cough that gradually becomes paroxysmal, usually within 1–2 weeks, and lasts for 1–2 months or longer.
- ◆ Paroxysms are characterized by repeated violent cough. Each series of paroxysms has many coughs without intervening inhalation and can be followed by a characteristic crowing or high-pitched inspiratory whoop. Paroxysms frequently end with the expulsion of clear, tenacious mucus, often followed by vomiting.
- ◆ It is primarily transmitted by direct contact with airborne discharges from the mucus membrane of infected person or by indirect contact through articles freshly soiled with discharges of infected persons.
- ◆ The average incubation period is 9-10 days ranging from 6 to 20 days.

Importance of Surveillance:

- ◆ Pertussis is a major cause of childhood morbidity and mortality. Case-fatality rates in developing countries can reach 15%.
- ◆ Surveillance data on the disease can monitor the impact of vaccination on disease incidence, identify high risk areas and identify outbreaks.

Standard Case Definition:

Clinical Case:

- ◆ A person with a cough lasting at least 2 weeks with at least one of the following:
 - ⇒ paroxysms (i.e. fits) of coughing
 - ⇒ inspiratory “whooping”
 - ⇒ post-tussive vomiting (i.e. vomiting immediately after coughing)
 - ⇒ without other apparent cause

Case classification:

Clinically-confirmed case:

- ◆ A case that meets the clinical case definition but is not laboratory confirmed.

Probable case:

- ◆ Meets the clinical case definition, is not laboratory confirmed, and is not epidemiologically linked to a laboratory-confirmed case.

Laboratory-confirmed case:

- ◆ A case of acute cough illness of any duration with a positive culture for *B. pertussis*; OR
- ◆ A case that meets the clinical case definition and is confirmed by PCR; OR
- ◆ A case that meets the clinical definition and is epidemiologically linked directly to a case confirmed by either culture or PCR.

PERTUSSIS
ICD 10 Code: A37

Laboratory Confirmation:

- ◆ Isolation of *Bordetella pertussis*, or detection of genomic sequences by polymerase chain reaction (PCR).
Specimen: nasopharyngeal swab using the Reagan-Lowe Kit.

Case detection and Reporting:

- ◆ .Report all cases every FRIDAY of the week to the next higher level using the Case Report Form (CRF).

Outbreak Investigation and Control:

- ◆ High routine vaccine coverage with effective vaccine is the mainstay of prevention.
- ◆ Manage patients in accordance with the national treatment protocol.
- ◆ Immunizations should be completed for those whose schedule is incomplete.



RABIES

ICD 10 Code: A82

Description:

- ◆ Rabies is a fatal acute viral encephalomyelitis caused by the rabies virus, a rhabdovirus of the genus Lyssavirus.
- ◆ It is a zoonotic disease transmitted to humans through contact (mainly bites and scratches) with infected animals both domestic and wild. Over 40 000 human deaths are estimated to occur each year worldwide, most of them in the developing world (mainly in Asia), and an estimated 10 million people receive post-exposure treatment after being exposed to animals suspected of rabies.
- ◆ Symptoms start with a sense of apprehension, headache, fever, malaise, excitability and aerophobia. The disease progresses to paresis or paralysis, spasm of swallowing muscles leading to fear of water or hydrophobia, delirium, convulsions and death.
- ◆ The incubation period is usually 3-8 weeks but maybe as short as 9 days and as long as 7 years. The incubation period depends on the severity of the wound, site of the wound in relation to richness of nerve supply, distance from the brain, amount and strain of virus.
- ◆ The WHO promotes human rabies prevention through well-targeted post exposure treatment and increased availability of modern rabies vaccine, and disease elimination through mass vaccination of dogs and other animal reservoirs.

Importance of Surveillance:

- ◆ Surveillance of both human and animal rabies is essential to quickly detect outbreaks in endemic areas and new cases in rabies-free area.
- ◆ Determine high risk areas for intervention purposes.
- ◆ Monitor the use of vaccine and immunoglobulin.
- ◆ Evaluate effectiveness of intervention at the level of the animal reservoir and exposed human population.

Standard Case Definition/ Case classification

Suspected Case:

A person presenting with an acute neurological syndrome (encephalitis) dominated by forms of hyperactivity (furious rabies) or paralytic syndromes (dumb rabies) that progresses towards coma and death, usually by respiratory failure, within 7 to 10 days after the first symptom if no intensive care is instituted.



Note: *Bites or scratches from a suspected animal can usually be traced back in the patient's medical history. The incubation period may vary from days to years but usually falls between 30 and 90 days.*

Probable Case: A suspected case plus history of contact with suspected rabid animal.

Confirmed Case: A suspected case that is laboratory confirmed.

Laboratory Confirmation:

- ◆ Detection of rabies viral antigens by direct fluorescent antibody (FA) in clinical specimens, preferably brain tissue (collected post mortem);
- ◆ Detection by FA on skin or corneal smear (collected ante mortem);
- ◆ FA positive after inoculation of brain tissue, saliva or CSF in cell culture, in mice or in suckling mice;
- ◆ Detectable rabies-neutralizing antibody titer in the CSF of an unvaccinated person;
- ◆ Identification of viral antigens by PCR on fixed tissue collected post mortem or in a clinical specimen (brain tissue or skin, cornea or saliva);
- ◆ Isolation of rabies virus from clinical specimens and confirmation of rabies viral antigens by direct fluorescent antibody testing.

RABIES

ICD 10 Code: A82

Case detection and Reporting:

- ◆ .Notify simultaneously the PHO, CHD and NEC within 24 hours of detection and send an advance copy of the Case Investigation Form (CIF) as soon as possible.

Outbreak Investigation and Control:

- ◆ In case of an outbreak, investigate all rabies foci, identify sources of infection as well as humans and animals exposed or possibly exposed.
- ◆ In case of human exposure to animals that are suspected of having rabies, immediate attempts should be made to identify, capture or kill the animal involved for rabies examination.
- ◆ In managing animal bite cases, follow the national treatment guidelines on animal bite management and rabies post exposure prophylaxis guide.
- ◆ The responsible veterinary services should be notified and information obtained on the epidemiological situation in the area.
- ◆ Vaccination of dog/animals (regular) by concerned agency



TYPHOID AND PARATYPHOID FEVER

ICD 10 Code: A01.0, A01.1-A01.4

Description:

- ◆ Typhoid and paratyphoid fever is systemic bacterial disease with insidious onset of sustained fever, severe headache, malaise, anorexia, relative bradycardia, splenomegaly, nonproductive cough in the early stage of the illness, and constipation more often than diarrhea in adults. The offending organisms are the bacteria *Salmonella typhi* and *Salmonella paratyphi*.
- ◆ The clinical presentation varies from mild illness with low-grade fever to severe clinical disease with abdominal discomfort and complications. The disease is transmitted via oral-fecal route.
- ◆ Severity of the disease is influenced by strain virulence, quantity of inoculums ingested, duration of illness before adequate treatment, age and previous exposure to vaccination influence severity.
- ◆ The incubation period ranges from 3 days to over 60 days but usually 8–14 days. For paratyphoid, the incubation period is 1–10 days.
- ◆ Even after recovery from typhoid or paratyphoid, a small number of individuals continue to carry the bacteria (called carriers). These people can be a source of infection for others.

Importance of Surveillance:

- ◆ The annual incidence of typhoid is estimated to be about 17 million cases worldwide.
- ◆ In the Philippines, typhoid fever ranks second among the leading causes of epidemics that are foodborne or waterborne related.

Standard Case Definition/ Case classification

Suspected Case:

A person with an illness characterized by insidious onset of sustained fever, headache, malaise, anorexia, relative bradycardia, constipation or diarrhea, and non-productive cough.

Probable Case: A suspected case that is epidemiologically linked to a confirmed case in an outbreak.

Confirmed Case: A suspected or probable case that is laboratory confirmed.

Laboratory Confirmation:

- ◆ Isolation of *Salmonella enterica* from blood, stool, or other clinical specimen.

Case detection and Reporting:

- ◆ .Report all cases every FRIDAY of the week to the next higher level using the Case Report Form (CRF).

Outbreak Investigation and Control:

- ◆ Search for the case/carrier that is the source of infection and for the vehicle (water or food) through which infection was transmitted.
- ◆ Selectively eliminate suspected contaminated food.
- ◆ All drinking-water must be chlorinated, treated with iodine or boiled before use.



ANNEXES

Annex 1:

Guide in the Establishment and/or Strengthening Of Epidemiology and Surveillance Units

I. Introduction

The establishment of the Philippine Integrated Disease Surveillance and Response System (PIDSRS) is aimed at putting in place a system that would result in the reduction of mortality, morbidity and disability caused by communicable diseases and related conditions. One of the important provisions in the PIDSRS is the strengthening of the capacity of the local government units to perform critical disease surveillance and response functions. To facilitate the achievement of this capacity-building objective and to provide guidance to DOH and LGUs in setting-up local epidemiological surveillance and response units, these ESR standards and guidelines are hereby proposed:

II. Standards and Guidelines by Level

A. Municipal/City/Community Level

Functions:

1. Organize data collection and gather epidemiological data from their health facilities (RHUs, Health Centers, BHS, satellite clinics, etc);
2. Prepare and periodically update graphs, tables and charts to describe time, place and person for Notifiable / Reportable diseases and conditions;
3. Analyze data and provide feedback to health facilities and local leaders;

Identify and inform concerned personnel (RHP, PHN, RHMs, and BHWs) immediately of any disease or condition in their expected areas that:

- exceeds an epidemic threshold
- occurs in locations where it was previously absent
- occurs more often in a population group than previously
- presents unusual trends or patterns

5. Carry out outbreak investigations
6. Implement preliminary control measures immediately if required; and
7. Forward epidemiological data to the next level on a regular basis and in accordance with the national surveillance protocol

Use epidemiological data to plan and implement communicable disease control activities at the municipal and city level

Standard Requirements for:

1. Staffing - One Medical or Nurse Epidemiologist, One Epidemiology Assistant
Physical – office, computer workstation, internet connection, and fax services

B. Provincial Level

Functions:

1. Organize data collection and gather epidemiological data from their sentinel sites (Provincial Hospital, District Hospitals, etc.);
2. Prepare and periodically update graphs, tables, and charts to describe time, place and person for Notifiable / Reportable diseases and conditions;
3. Analyze data and provide feedback to health facilities and provincial leaders;
Identify and inform MHOs or CHOs immediately of any disease or condition in their expected areas that:
 - ◆ exceeds an epidemic threshold
 - ◆ occurs in locations where it was previously absent
 - ◆ occurs more often in a population group than previously
 - ◆ presents unusual trends or patterns
5. Confirm the status of reported events from the municipalities and cities and to support or implement additional control measures if necessary;
6. Assess reported events immediately and, if found urgent, to report all essential information to CHD and DOH central office. Urgent events are those with serious public health impact and/or unusual or unexpected nature with high potential for spread.
7. Provide on-site assistance (e.g., technical, logistics, laboratory analysis of samples) as required to supplement local investigations at the municipal and city level;
8. Establish, operate and maintain a public health emergency response plan, including the creation of multi-sectoral teams to respond to events that may constitute a public health emergency of local and international concern;
9. Notify DOH central office all reported urgent events within 24 hours as required in the IHR-2005;
10. Forward epidemiological data to the next level on a regular basis and in accordance with the national surveillance protocol
11. Use epidemiological data to plan and implement communicable disease control activities at the provincial level
12. Support municipal and city surveillance teams in strengthening surveillance and epidemic response through training & supervision.

Standard Requirements for:

1. Staffing – One full-time Provincial Medical or Nurse Epidemiologist, One full-time Epidemiology Assistant, and One full-time Epidemiology Clerk
Physical – office, computer workstation, internet connection, fax services, and copier

Annex 2:

The PIDSR Weekly Notifiable Disease Report Summary Page

This serves as the summary table for the weekly reporting of notifiable diseases. It also shows the category and frequency of reporting of all the notifiable disease included in the PIDSR.



Weekly Notifiable Disease Report

Summary Page

Name of Disease Reporting Unit : _____

Type of facility: Gov't Hospital Private Hospital Rural Health Unit Clinic
 City Health Office Gov't Laboratory Private Laboratory Seaport/Airport
Address: _____ Tel. No. _____

This report was prepared by: _____ Date: ____/____/____
(Signature over printed name)

This report was submitted to _____ Date: ____/____/____
(Name of RHU/CHO/PHO/CHD): _____

This report was approved by: _____ Date: ____/____/____

List of Notifiable Diseases/Syndromes

Indicate the number of case/s in the corresponding line for case/s of disease/
syndrome seen and "0" if no cases seen.

Category I (Immediately Notifiable)

- _____ Acute Flaccid Paralysis
- _____ Adverse Event Following Immunization (AEFI)
- _____ Anthrax
- _____ Human Avian Influenza
- _____ Measles
- _____ Meningococcal Disease
- _____ Neonatal Tetanus
- _____ Paralytic Shellfish Poisoning
- _____ Rabies
- _____ Severe Acute Respiratory Syndrome (SARS)
- _____ Outbreaks
 - Clusters of diseases
 - Unusual diseases or threats

Category II (Weekly Notifiable)

- _____ Acute Bloody Diarrhea
- _____ Acute Encephalitis Syndrome
- _____ Acute Hemorrhagic Fever Syndrome
- _____ Acute Viral Hepatitis
- _____ Bacterial Meningitis
- _____ Cholera
- _____ Dengue
- _____ Diphtheria
- _____ Hand, Foot and Mouth Disease (HFMD)
- _____ Influenza-like Illness
- _____ Leptospirosis
- _____ Malaria
- _____ Non-neonatal Tetanus
- _____ Pertussis
- _____ Typhoid and Paratyphoid Fever

Category I: Notify simultaneously the PHO, CHD and NEC within **24 hours** of detection and send advance copy of the Case Investigation Form (CIF) as soon as possible.

Category II: Report all cases of notifiable diseases/syndromes every **FRIDAY** of the week to the next higher level

"Let's help prevent epidemics"

Annex 3:

The PIDSR Case Investigation Forms

The following pages are the PIDSR Case Investigation Forms for the Category I (Immediately Notifiable) diseases, syndromes and health events which include the following:

- ◆ Acute Flaccid Paralysis
- ◆ Adverse Event Following Immunization
- ◆ Anthrax
- ◆ Human Avian Influenza
- ◆ Measles
- ◆ Meningococcal Disease
- ◆ Neonatal Tetanus
- ◆ Paralytic Shellfish Poisoning
- ◆ Rabies
- ◆ Severe Acute Respiratory Syndrome (SARS)

As their name imply, the forms will be used to obtain relevant information on every case seen in the health facility. The variables included are highly significant as they will become bases for the following:

- ◆ The diagnosis of the illness.
- ◆ The analysis of all surveillance data by person, place and time.
- ◆ The presence of an outbreak in a particular period of time in a particular geographic area.
- ◆ The weekly reporting that your health facility will submit to the next higher health service level.
- ◆ The promptness and type of public health action.

It is therefore imperative that each case in Category I diseases, syndromes or health event will have his own PIDSR Case Investigation Form and that every sheet is accomplished completely. Failure to do so will prompt the next health service level to contact you or your staff to complete the forms. Failure would also lead to an error in analysis of the surveillance data, generation of wrong conclusions and giving out of wrong recommendations.

A review of the individual forms will be part of the monitoring and evaluation activities.

[Annex 4:](#)

The PIDSR Case Report Forms

The following pages are the PIDSR Case Report Forms for the Category II (Weekly Notifiable) diseases, syndromes and health events which include the following:

- ◆ Acute Bloody Diarrhea
- ◆ Acute Encephalitis Syndrome
- ◆ Acute Hemorrhagic Fever Syndrome
- ◆ Acute Viral Hepatitis
- ◆ Bacterial Meningitis
- ◆ Cholera
- ◆ Dengue
- ◆ Diphtheria
- ◆ Hand-Foot-Mouth Disease
- ◆ Influenza-like Illness
- ◆ Leptospirosis
- ◆ Malaria
- ◆ Non-Neonatal Tetanus
- ◆ Pertussis
- ◆ Typhoid and Paratyphoid Fever