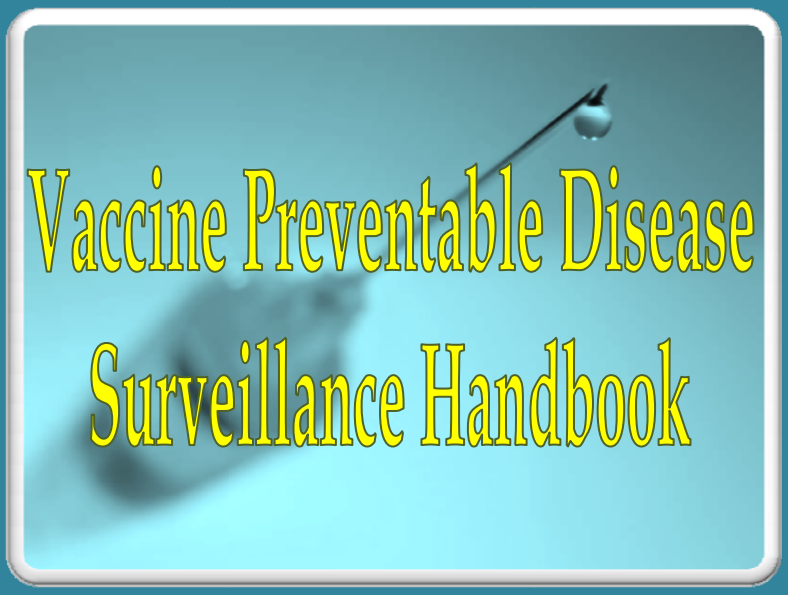

Vaccine Preventable Disease Surveillance Handbook

A supplemental guide

National Epidemiology Center
Department of Health
Philippines
2012

World Health Organization
Western Pacific Region

VACCINE PREVENTABLE DISEASE SURVEILLANCE HANDBOOK

A supplemental guide

National Epidemiology Center

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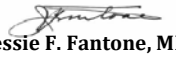

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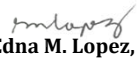

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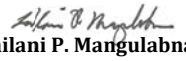

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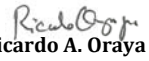

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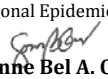

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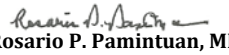

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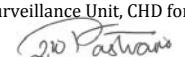

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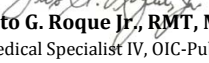

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FOREWORD

Since the birth of the Philippine Integrated Disease Surveillance and Response (PIDSR) in 2007, the country has taken efforts to strengthen epidemiologic surveillance and response system through active participation of health facilities from both private and public sectors. PIDSR was established to improve the current disease surveillance systems in the Philippines in compliance with the 2005 International Health Regulations (IHR). It envisions the integration of all surveillance and response activities at all levels. This integration will provide a more rational basis for decision making and implementing public health interventions that effectively respond to priority diseases and events. Its focus is to strengthen the capacity of local government units for early detection and response to epidemics.

The PIDSR system continues to build from the lessons learned during its implementation and continues to give priority to Vaccine Preventable Diseases that includes Acute Flaccid Paralysis (AFP), Measles and Neonatal Tetanus (NT). A special surveillance for these diseases is being done to achieve the country's global commitment for eradication of poliomyelitis and elimination of measles and neonatal tetanus.

This handbook is a simple, concise, quick reference that will help strengthen the vaccine preventable disease surveillance system at all health levels. This

will aid program managers and surveillance implementers to have a standard understanding and knowledge on the core surveillance activities of Vaccine Preventable Diseases. This also provides answers to the most frequently asked questions on acute flaccid paralysis, measles and neonatal tetanus surveillance.

The development and preparation of this handbook would not have been made possible without the support of the World Health Organization, the Research Institute for Tropical Medicine, staff at the regional, provincial, city, municipal health offices and hospitals, and staff of the national VPD and EPI team whose dedication and commitment have significant contribution to this innovative approach.

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ACRONYMS

AEFI	Adverse Events Following Immunization
AFP	Acute Flaccid Paralysis
BHS	Barangay Health Station
BHW	Barangay Health Worker
CESU	City Epidemiology and Surveillance Unit
CHD	Center for Health Development
CHO	City Health Office
CIF	Case Investigation Form
DBS	Dried Blood Spot
DRA	Disease Reporting Advocate
DRU	Disease ReportingUnit
DSC	Disease Surveillance Coordinator
DSO	Disease Surveillance Officer
DTR	Deep Tendon Reflex
EPI	Expanded Program on Immunization
ERC	Expert Review Committee
ESU	Epidemiology and Surveillance Unit
GBS	Guillain-Barre Syndrome
HC	Health Center
HEPO	Health Education Promotion Officer
ITD	Intratypic Differentiation
MNCH	Maternal, Neonatal and Child Health

NEC	National Epidemiology Center
NMRL	National Measles Reference Laboratory
NPEV	Non-Polio Enterovirus
NPS	Nasopharyngeal Swab
NT	Neonatal Tetanus
OPS	Oropharyngeal Swab
OPV	Oral Polio Vaccine
ORI	Outbreak Response Immunization
PESU	Provincial Epidemiology and Surveillance Unit
PIDSR	Philippine Integrated Disease Surveillance and Response
RESU	Regional Epidemiology and Surveillance Unit
RHU	Rural Health Unit
RITM	Research Institute for Tropical Medicine
TCL	Target Client List
TT	Tetanus Toxoid
VDPV	Vaccine-Derived Paralytic Polio
VPD	Vaccine Preventable Disease
VPDS	Vaccine Preventable Disease Surveillance
VTM	Viral Transport Medium
WHO	World Health Organization

INTRODUCTION

Vaccine preventable disease (VPD) surveillance under the umbrella of the Philippine Integrated Disease Surveillance and Response (PIDSR) that was established in 2007 has an objective of improving the quality of disease surveillance nationwide, thus, assist in the disease prevention and control programs of the Department of Health. The goal is to improve the capacity of health system through timely detection and appropriate response to disease and conditions with high level of morbidity, disability, and mortality.

The Philippines has been certified polio-free in October 29, 2000. However, despite polio-free certification, the risk of wild poliovirus importation remains until poliovirus is eradicated throughout the world. According to the World Health Organization (WHO), at the beginning of 2006 only four countries remained polio-endemic: Nigeria, India, Pakistan and Afghanistan. Many other countries have experienced outbreaks and re-established transmission of wild poliovirus because of imported poliovirus originating from northern Nigeria or Northern India. Fortunately, virtually all countries with polio outbreaks following importation have been successful in interrupting wild poliovirus transmission a second time. In 2012, India has successfully interrupted wild poliovirus transmission and was certified Polio-free. Until global eradication is achieved, a threat of wild poliovirus importation always exists.

The country also aims to eliminate Measles and Neonatal Tetanus. The same AFP Surveillance Network, which has been proven to be effective, shall be

used for Measles and Neonatal Tetanus surveillance. Case-based surveillance is important to accurately identify high risk areas and populations to achieve elimination goals.

Priority VPDs for Intensive Case-based Surveillance

- **Poliomyelitis (or Acute Flaccid Paralysis)**
- **Measles-Rubella**
- **Neonatal Tetanus**

Intensive case-based surveillance
A comprehensive set of data is collected for every case of these diseases/syndromes using a standard case investigation form.

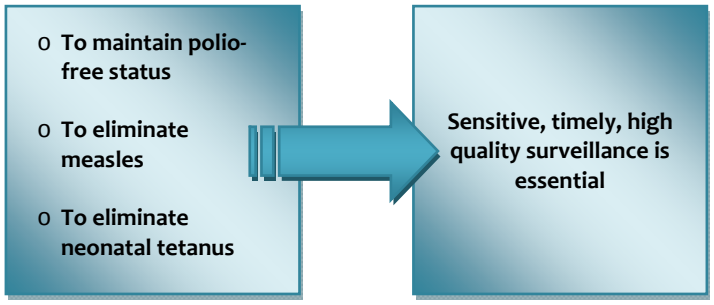
VPD Eradication/Elimination Goals

- **Global Polio Eradication Initiative**
  - ✓ Maintain certification standards in polio-free countries
  - ✓ No cases of clinical Poliomyelitis associated with wild poliovirus, and
  - ✓ No wild poliovirus found worldwide despite intensive surveillance

- **Measles Elimination**
  - ✓ Means the absence of endemic measles virus transmission for a period of 12 months or more, in the presence of adequate surveillance

- ✓ Reduce incidence so that measles is no longer a health threat (<1/1,000,000 population)

- **Neonatal Tetanus Elimination**
  - ✓ Target: achieve and maintain less than one NT case per 1,000 live births in every municipality/city every year



SENSITIVE, TIMELY, HIGH QUALITY SURVEILLANCE

- Notify AFP, Measles and NT cases within 24 hours of detection
- Investigate AFP, Measles and NT cases within 48 hours upon notification
- Collect adequate specimens from AFP and Measles cases

Acute Flaccid Paralysis

STANDARD CASE DEFINITION

Acute Flaccid Paralysis (AFP) is a syndrome manifested as floppy paralysis. It is not a disease condition.

- An AFP case is **any child under 15 years of age with acute onset of floppy paralysis,**

OR

- A person of any age in whom poliomyelitis is suspected by a physician.

To understand the case definition further, the surveillance staff may use the following as reference to identify a "*true*" AFP case:

- ✓ Acute - means a *sudden* onset of paralysis. Usually the interval from the first sign of muscle weakness to inability to move the affected limb(s) takes 3-4 days but may extend to two weeks
- ✓ Flaccid - is the loss of muscle tone of the affected limb(s) giving it a "*floppy*" appearance (as opposed to spastic or rigid)
- ✓ Paralysis - is the *reduced or loss of ability to move* the affected limb(s)

If an AFP case is less than 5 years of age with less than 3 Oral Polio Vaccine (OPV) doses and had fever at onset of asymmetrical paralysis OR if the patient has L20B+ isolate, the case is considered a hot case. AFP Hot case will be discussed further in the succeeding sections.

CASE DETECTION AND NOTIFICATION

- The DSOs/DSCs should conduct daily active case finding to detect cases.
- To ensure that all cases are detected, DSOs/DSCs should also review patient's records/logbooks of the health facility based on the differential diagnosis below.
- Report all patients that satisfy the standard case definition within 24 hours after detection, regardless of the physician's diagnosis.

Differential Diagnosis

The following are the differential diagnoses used for detecting AFP cases.

- ✓ Poliomyelitis
- ✓ Guillain-Barre Syndrome (GBS)
- ✓ Myelitis (i.e. Transverse myelitis, Pott's disease)
- ✓ Traumatic neuritis
- ✓ Other disease as long as AFP is manifested

CASE INVESTIGATION

Case investigation should be done within 48 hours upon notification. Complete investigation includes completion of the standard case investigation form, collection of specimen and search for other cases.

1) Verify if the case satisfies the case definition for AFP

Any reported cases from the DRA/DSC should be verified by the DSO/ESU using the questions listed below.

Question	Answer	Remarks
1) Is the patient less than 15 years old?	Yes	If "No", investigate any age if suspected polio by a physician
2) Does the patient have floppy paralysis?	Yes	
3) Did the paralysis develop suddenly/rapidly? (see definition of acute)	Yes	
4) Is the paralysis NOT present from birth?	Yes	
Note: *Any "NO" answer in the above will not merit an investigation except for question#1*		

2) Interview and examine the case

- The DSO uses a **standard Case Investigation Form** (CIF) to collect adequate information about the case. Data collection

is primarily done through interview of the patient's health service provider and family/caregiver.

- ✓ It is important to document the complete contact information and exact residential address, including the name or number of the barangay during the interview.
- ✓ Before the interview ends, review the patient's data in the CIF for completeness and accuracy.
- ✓ The investigator should take note that adult cases with spastic paralysis or paralysis resulting from trauma should not be further investigated.
- ✓ Adult cases with acute flaccid paralysis will only be reported and investigated when the doctor suspects polio.
- ✓ Likewise, generalized body weakness, unless there is evidence of reduced/absence of deep tendon reflexes and/or motor function in any of the limbs, should not be mistakenly reported as AFP case.
- ✓ The DSO should actively coordinate with the attending physician to determine if the case is AFP.

Physical examination

Physical examination is an important step in identifying if a patient is truly an AFP case. This will help to differentiate between general body weakness and AFP.

- **General appearance** – this is best done by observing the child. Can the child walk or get up without assistance? Is the child able to lift or move his or her arms or legs? Is there a limp or foot drag? Are the arms or legs floppy? Are the neurological signs present in one side (asymmetrical) or both sides (symmetrical) of the body?

Physical examination procedure to check if paralysis is floppy:

For older children: The examiner should do passive flexion and extension of the paralyzed extremities. If there will be no resistance to the above maneuver, then the paralysis is considered flaccid. The muscles of patient with flaccid paralysis would feel flabby.

For infants: Observe the movement and position of the extremities. The paralyzed extremity will have decreased or no spontaneous movement. "Frog-like" position of the lower extremities will commonly be observed in cases with floppy paralysis. There will also be no resistance to passive flexion and extension of the extremities in floppy paralysis. In contrast, patients with spastic paralysis will have increased resistance to passive flexion and extension.

If the paralysis is not floppy, stop the investigation.

- **Reflexes** – test the deep tendon reflexes (DTRs) using a reflex hammer or tapping with finger in infants.

  In polio, DTR is substantially decreased or absent.

How to check the deep tendon reflexes:

Deep tendon reflexes should be elicited by tapping the patellar, Achilles and triceps using a reflex hammer. The most common site tested is patellar reflex. Percuss with a reflex hammer just below the knee cap. Normal response is a jerk. Reflexes may be graded as: (0) absent, (+) diminished, (++) normal, (+++) exaggerated and (++++) clonus.

- **Motor status** – this assessment should focus on arm and leg movement.

How to check the motor status:

For older children: Observe if patient can move all extremities. If with observed paralysis, ask the patient to do the following:

- raise the arm and reach out for an object
- stand on either leg
- observe the gait

Assess the degree of paralysis as follows:

- 0 - No movement
- 1-2 - minimal movement
- 3 - patient is able to raise the extremity/ies against gravity
- 4 - patient is able to move extremity/ies against minimal resistance
- 5 - normal movement, patient is able to walk and symmetrically move all extremities against gravity and against full resistance

How to check the motor status:

For infants: Observe symmetry and asymmetry of movements of the extremities. Describe as follows:

- 0 - No movement
- 1-2 - minimal movement
- 3 - patient is able to raise the extremity/ies against gravity
- 4 - patient is able to move extremity/ies against minimal resistance
- 5 - normal movement, patient is able to symmetrically move all extremities against gravity and against full resistance

Note: *Other activities such as crawling, walking and playing may be used to assess symmetry of movements and presence of paralysis.*

- **Sensory status** – in general, this cannot be reliably done in infants and younger children 5 years and below.

How to check the sensory status:

For older children: Sensory examination is evaluated by asking the patient to close his/her eyes and with the broken edge of the wooden tongue depressor, the patient is asked if he/she can feel the sharpness of test object in the extremity that is paralyzed. He/she is requested to approximate the degree of sensation in percentage in comparison to the normal side. A difference of 30% or more will be considered significant.

3) Collect additional information

- Once an AFP case is identified, the investigator should review the patients' medical chart for any additional information, particularly if patients have been discharged.

- Usually when the patient is hospitalized, the attending physician makes a working diagnosis which may not necessarily be AFP. Investigators should coordinate with the physician to determine if the case is AFP.

4) Collect specimens from each case

Stools should be collected within 14 days of paralysis onset. Ideally, the two stool specimens should be collected at least 24 hours apart. Refer to the next section for guidelines in specimen collection.

5) Submit the completed AFP CIF

- Prior to submission, review CIF for completeness and consistency of information.

- Investigators should attach a copy of the patient's medical record (history, clinical abstract, physical examination, progress notes, discharge summary, diagnostic procedures [CT scan, EEG, MRI] and laboratory results [CBC, electrolytes]) to the investigation form.

- Submit the completed CIF immediately upon investigation to the respective ESUs or to the next higher level and to NEC.

- Enclose a copy of the CIF when submitting properly-labeled stool specimens to the National Polio Reference Laboratory (RITM-Virology Department).

Virology Department
Research Institute for Tropical Medicine-Virology Department
9002 Research Drive, Filinvest Corporate City Compound
Alabang, Muntinlupa City, 1781
Tel. No. 02-8097120

- *Refer the cases for appropriate medical treatment*
- *If the case is due for vaccination, make sure that specimens are collected prior to the administration of vaccine*

6) Search for additional cases

- An AFP cluster is defined as 2 or more AFP cases reported from one barangay/municipality within a period of 4 weeks.

- Once a cluster is identified, coordinate to find out if there are other cases from the same barangay/municipality.

- Review patient's record/individual treatment record of health facilities (RHUs/HCs/hospitals) based on the differential diagnoses to find out if there are other cases.

- If additional cases are found, investigate.

7) Conduct 60-day follow-up examination

All AFP cases (irrespective of adequacy of stool) are followed up 60 days after the onset of paralysis to determine if residual paralysis or weakness is present.

The guide on how to conduct the follow-up is discussed in the succeeding sections.

CASE CONFIRMATION

Stool Collection and Storage Procedures

1. Collect two adult's thumb-size stool specimens (at least 24 hours apart) from each AFP case within 14 days from paralysis onset.
2. For watery stool specimen, collect at least 5 ml of the stool specimen.
3. Use a standard stool specimen container or any clean, leak-proof screw-capped container.
4. Properly label specimens with the name of the patient, date of collection and specimen number (1 or 2). The side of the container, not the cap, should be labeled. Use a water-resistant pen to label the specimen container.
5. Immediately after collection, the specimens must be placed in the body of the refrigerator for shipment or in a specimen carrier box between frozen ice packs at 4-8°C, changing ice packs every 24 hours and just before specimens are shipped to RITM until transport arrangement has been made.

If immediate shipment within 3 days of collection is not possible, the specimens have to be frozen (at –20 °C) and then shipped frozen, preferably with dry ice or with ice packs that have been frozen at –20 °C

- *Adequate stool specimen - 2 stool specimens both collected within 14 days from the onset of paralysis with a collection interval of at least 24 hours*
- *Inadequate stool specimen - 1 or both stool specimens collected beyond 14 days from the onset of paralysis or only one or no specimen is collected*

Specimen Transport Procedure

1. Wrap the specimen containers in absorbent material (e.g. cotton), seal them in a zip-lock plastic bag.
2. Enclose a copy of the completely filled up CIF inside a separate zip-lock plastic bag. DO NOT wrap the forms around the specimens.
3. Transport the specimens using a well insulated specimen transport box with at least 4 frozen ice packs inside: put frozen ice packs in first, at the bottom and at the sides of the carrier box; then place specimens at the middle so that they are surrounded by the ice packs. Cover the carrier box. Place the sealed CIF on top and secure with tape.
4. Send the specimens via fastest courier or call the CESU, PESU or RESU to arrange pick up. Specimens must arrive at the laboratory within 3 days of collection, otherwise they should be frozen at –20°C, and then shipped frozen.
5. If sending of specimens will be done during weekends or holidays, inform RITM Virology Staff of the expected arrival of the specimens.
6. Address shipment to:

Virology Department
Research Institute for Tropical Medicine-Virology Department
9002 Research Drive, Filinvest Corporate City Compound
Alabang, Muntinlupa City, 1781
Tel. No. (02) 809-7120

"Hot Case" Definition

- An AFP case that satisfies the following criteria:

  - ✓ A child **less than 5 years old** with **less than 3 doses of OPV** and **had fever at the onset of asymmetrical paralysis,**

  OR

  - ✓ A person of any age whose stool sample yields a **positive L20B isolate*** regardless of genotype

  **Wild poliovirus/VDPV is ruled out when the Intratypic Differentiation (ITD) result is "Sabin-like". This means that the isolate is the live-attenuated virus component of the oral polio vaccine (OPV).*

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. Conduct further investigation of the case to determine the following:

A. Patient's medical profile:

1. Verify the final diagnosis.
2. Re-assess the presence and type of paralysis.
3. Determine the OPV immunization status of the child including the date of the last OPV dose.
4. If not vaccinated, determine exposure to recently (within 60 days after vaccination) OPV vaccinated individual.
5. Check history of travel within 60 days and other travel details with specific attention to countries where there are existing poliovirus transmission.

- *Submit an updated copy of patient's medical records to ESUs*
- *Maintain patient's privacy during investigation*

B. Community profile:

1. Presence of other AFP cases in the barangay and municipality where the child resides for the past 6 months
2. Schedule of immunization activity in the community
3. Latest immunization coverage of the RHU and the nearby communities and validate OPV3 coverage in the target client list (TCL)

4. 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).

2. 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 case.

3. Recommend to RHUs and hospitals to continuously monitor and report subsequent AFP cases.

4. All additional and new AFP cases in the area must be immediately reported and completely investigated.

5. Conduct OPV follow-up immunization activity among under 5 years old population who did not complete the 3 doses of OPV in the municipality/city.

- *Submit investigation report and immunization activity 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*

60-DAY FOLLOW-UP

A follow-up visit to an AFP case is important to determine the presence of residual paralysis.

- All AFP cases should be followed up on the 60th day from onset of paralysis.
- Priority should be given to AFP cases that falls in any of the following:
  - without stool samples
  - stool samples that were collected beyond 14 days from paralysis onset
  - cases classified as polio-compatible
  - AFP Hot case
- 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/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.

If the case moves to another region, the surveillance officer of that region should be requested to conduct the 60-day follow-up examination.

CASE CLASSIFICATION

Expert Panel Classification

- The main responsibility of the AFP/Polio Expert Review Committee is to review and classify all the AFP cases reported and entered into the surveillance system.

- Complete medical records with relevant information and laboratory results should be provided especially for cases with inadequate stool specimen to facilitate case classification.

SURVEILLANCE PERFORMANCE INDICATORS

- Non-polio AFP rate of at least 2 per 100,000 population below 15 years old
- ≥80% Adequacy of stool specimens
- 10% NPEV isolation rate at all levels
- ≥80% of cases were reported within 14 days after the onset of paralysis
- ≥80% of cases were investigated within 48 hours after notification
- ≥80% of cases were followed up 60 days after the onset of paralysis
- ≥80% of stool specimens receive at the National Reference Laboratory (RITM) within 3 days after collection
- ≥80% of cases were classified within 90 days after onset of paralysis (through the AFP Expert Panel Meetings)

Highest priority must be given to "hot cases"

FREQUENTLY ASKED QUESTIONS

1) ***Do we still have polio cases in the Philippines?***

   The last polio case in the Philippines was in 1993. Since then, no cases have been detected. In 2000, the country was certified polio-free.

2) ***Is it possible that poliomyelitis can occur again in the Philippines?***

   Yes, importation of wild poliovirus from endemic countries can happen. It is therefore necessary to maintain high population immunity and strengthen AFP surveillance.

3) ***What is AFP surveillance and why is it important?***

   AFP surveillance system facilitates early detection and response to cases of polio in the country. This requires reporting and investigating all children below 15 years old manifesting acute flaccid paralysis.

4) ***If an AFP case is detected more than 2 months after the onset of paralysis, should this case be reported?***

   No, unless the physician/DSC/DSO suspects polio. This situation implies weakness of the surveillance system.

5) ***Why do we monitor or look for cases of acute flaccid paralysis?***

   Acute flaccid paralysis is the common manifestation of poliomyelitis. This is the means for early detection of suspected polio so that appropriate response can be immediately implemented.

6) ***Is AFP a diagnosis?***

No. AFP is a syndrome that could be manifested by several diseases. This is the reason why most physicians do not write this as the diagnosis in patient's chart. It is therefore necessary that surveillance staff should assess for other diseases that may present with acute flaccid paralysis.

7) ***Who should report AFP and to whom?***

The designated Disease Surveillance Coordinators (DSC) of the Disease Reporting Units (DRU) should report AFP cases to the concerned Epidemiology and Surveillance Unit (ESU) within 24 hours of detection.

8) ***Where do we expect to find cases of AFP?***

AFP cases are usually detected in secondary and tertiary hospitals. Cases can also be detected in the community/RHU/CHO/BHS/health centers.

9) ***What is active case finding?***

Active case finding means daily identification and actual investigation of AFP cases in Pedia/Neuro/ER/Rehab/OPD wards using the AFP CIF. This activity is the main responsibility of Disease Surveillance Coordinators.

10) ***What is AFP active surveillance and when is it necessary?***

4 Components of AFP active surveillance:

- ✓ *Active case finding by DSCs*
- ✓ *Augmentation of staff to non-functional PESUs*
- ✓ *DSOs conducting regular monitoring and supervision*
- ✓ *Feedback*

Active surveillance means the DSO from ESU conducts scheduled visit or telephone calls to <u>silent DRUs</u> (These are health facilities that do not

report AFP cases for 3 consecutive weeks including zero reporting). The visit includes inquiring about AFP cases in the Pedia/Neuro/Rehab/ OPD wards and review of hospital admission and medical records in the past week. This activity is done to enhance case detection and reporting in silent DRUs. However, review of records is not meant to replace routine active case-finding by the DSCs.

11) What are the advantages and disadvantages of active surveillance?

Active case surveillance revitalizes case detection and reporting of AFPs. However, this approach entails higher operational budget due to the frequency of hospital visits.

12) Why is it important to report an AFP "Hot case" immediately?

An AFP hot case is likely to be a case of poliomyelitis. Therefore, immediate reporting within 24 hours is very important so that measures to control transmission can be implemented immediately to prevent further spread.

13) What are the priority response activities that should be done after a "hot case" is reported?

- ✓ *The DSO completes the medical and other relevant information of the case.*
- ✓ *Search for other AFP cases in the community.*
- ✓ *The EPI coordinators, in consultation with the next higher level, should plan for enhancing immunization activities in the area where the hot case resides.*

14) ***Why is it important to provide complete information on the clinical and neurological examination of all reported AFP cases?***

Comprehensive clinical information is important because this will be used in deciding whether an AFP case is a polio case that warrants immediate response.

In some occasions, poliovirus may not be isolated in stool specimens. Clinical information and presence of residual paralysis 60 days after the onset may be used to determine whether an AFP case is polio-compatible or hot case which needs immediate response.

15) ***Should we check for residual paralysis for all AFP cases?***

Yes. AFP cases should be followed up 60 days after the onset of paralysis. Priority should be given to AFPs with one or no stool specimen or if stools were collected more than 14 days after the onset of paralysis.

16) ***Why do we need to collect two stool specimens for every AFP case?***

Shedding of poliovirus may be intermittent. Collection of two stool specimen at least 24 hours apart increases the negative predictive value of the chance of poliovirus isolation.

17) ***How can we collect specimen from a constipated AFP case?***

Unless contraindicated by the physician, laxative or suppositories may be used for constipated patient.

18) ***Is it acceptable to place a blood specimen and a stool specimen in one transport box?***

Yes, as long as these are properly labeled and individually packed.

19) ***How do we ensure the specimen will reach the laboratory in good quality?***

As soon as the first stool specimen is collected, put it in a dry leak-proof properly labeled container. Store it immediately in the body of a refrigerator while waiting for the second stool specimen. Same procedure applies for the second stool specimen while arranging for transport to RITM. Transport the specimens using appropriate transport box with at least four (4) frozen ice packs and CIF. Specimens should reach RITM within 3 days after collection.

20) ***What is the difference between AFP rate and Non-polio AFP rate?***

AFP reporting rate comprise all the reported AFP cases regardless of the cause or classification. Non-polio AFP rate refers to AFP cases that had been verified and classified by the expert panel committee as AFPs not due to polio.

21) ***What is the difference between Non-polio AFP and Not AFP?***

Non-polio AFP is an AFP case classified by the expert panel committee as non-polio in which the paralysis is not caused by poliovirus, whereas, Not AFP is a reported case that did not fit the case definition of AFP.

Measles-Rubella

STANDARD CASE DEFINITION

Suspected case:

- Any individual, regardless of age, with the following signs and symptoms:

  - ✓ fever (38°C or more) or hot to touch, **and**
  - ✓ maculopapular rash (non-vesicular), **and**
  - ✓ at least one of the following: cough, coryza (runny nose) and conjunctivitis (red eyes).

Collect blood specimen from all suspect measles-rubella cases within 28 days of rash onset for confirmation.

CASE DETECTION AND NOTIFICATION

- The DSOs/DSCs should conduct daily active case finding to detect cases.
- To ensure that all cases are detected, DSOs/DSCs should also review patient's records/logbooks of the health facility based on the differential diagnosis below.
- Report all patients that satisfy the standard case definition within 24 hours after detection, regardless of the physician's diagnosis.

Differential Diagnosis

- ✓ Febrile exanthems (fever and rash)
- ✓ Rubella
- ✓ Roseola infantum (exanthema subitum)
- ✓ Dengue
- ✓ Scarlet fever
- ✓ Mononucleosis
- ✓ Meningococcemia
- ✓ Other viral exanthems

CASE INVESTIGATION

Case investigation should be done within 48 hours upon notification. Complete investigation includes completion of the standard CIF, collection of specimen and search for other cases.

1) Verify if the case satisfies the case definition for Measles-Rubella

Any reported cases from the DRA/DSC should be verified by the DSO/ESU using the following questions:

Question	Answer	Remarks
1) Does/did the patient have maculopapular (non-vesicular) rash?	Yes	If the case satisfies the case definition of measles-rubella, proceed to step # 2.
2) Does/did the patient have fever of at least 38°C or "hot to touch?"	Yes	
3) Does/did the patient have at least one of the following? a. Cough b. Coryza (runny nose) c. Conjunctivitis (red eyes)	Yes	

2) Interview and examine the case

- The DSO should interview the patient or the patient's family using the **standard CIF**. Document the cases' complete and exact address with the name or number of the barangay and contact information. Make sure that the case investigation form is completely and accurately filled out.

Physical examination

Assess the suspect measles-rubella case for the following:

- ✓ presence and the type of rash
- ✓ presence of fever
- ✓ cough, coryza, conjunctivitis
- ✓ other signs and symptoms of measles (e.g. Koplik's spots, branny desquamation)
- ✓ any complications associated with measles (e.g. diarrhea, encephalitis, pneumonia, otitis media, xerophthalmia)

3) Collect additional information

- ➢ Complete the CIF and collect additional information from the patient's record/medical data and/or by discussing the case with the attending physician.

- ➢ Validate if specimen (blood and/or Nasopharyngeal/ Oropharyngeal swab) was taken from the case.

4) Collect specimens from each case

- ➢ It is highly encouraged that all health facilities should collect blood from all suspect measles-rubella cases. During the elimination phase, 100% of reported suspect measles-rubella cases should be laboratory confirmed.

- ➢ Procedure on how to collect specimen will be discussed in the next section.

5) Submit the completed Measles-Rubella CIF

Submit the completed CIF immediately upon investigation to the respective ESUs or to the next higher level and to NEC. Enclose a copy of the CIF when submitting specimens to the National Measles Reference Laboratory (RITM-Virology Department).

Virology Department
Research Institute for Tropical Medicine-Virology Department
9002 Research Drive, Filinvest Corporate City Compound
Alabang, Muntinlupa City, 1781
Tel. No. (02) 809-7120

6) Search for additional cases

- Measles is a highly infectious disease with high outbreak potential. Other cases may be seen in the community. Hence, active case finding is critical to determine the extent of transmission.

- In the hospital setting, search for other cases in the ward. If cases are found, investigate.

- In the field setting, the DSO in coordination with the EPI coordinator and midwife/BHW shall perform the following:
  - ✓ Review patient's records/logbooks of health facilities (RHUs/HCs/hospitals) based on the differential diagnosis to ensure that all cases are detected.

- ✓ Interview the family of the case if they know of other cases in the household or their community.
- ✓ Interview barangay health workers and community leaders if there are other cases with fever and rash.
- ✓ Completely investigate all additional suspect measles-rubella cases in the community.

- *Refer the cases for appropriate medical treatment*
- *If the case is due for vaccination, make sure that specimens are collected prior to the administration of vaccine*

CASE CONFIRMATION

Blood Extraction Procedure

1. Make the patient comfortable with the arm accessible to the medical technologist/phlebotomist.
2. Clean the venipuncture site with alcohol then prick with a sterile, single use syringe with gauge 23 needle.
3. Collect at least 5 ml (1 ml for infants and younger children) of blood from the patient.
4. Label the red top Vacutainer™ tube with the patient's name, age, sex, date of birth and date of blood extraction. The information on the label must be legible and shall match the information on the CIF. Label must remain attached under all conditions of storage and transport.
5. Keep blood at room temperature, undisturbed until a clot is formed.
6. Allow the clot to retract in the refrigerator (approximately 4-8^{o}C) or in a transport box with 4 frozen ice packs. DO NOT FREEZE THE SPECIMEN.
7. Centrifuge at 1000 x G for 10 minutes to separate serum from the clot. If there is no centrifuge, the blood shall be kept in a refrigerator for no longer than 24 hours until there is complete retraction of the clot from the serum.

NOTE: *Serum sample collection remains the GOLD STANDARD for confirming suspect measles-rubella cases under surveillance.*

- *9Adequate blood specimen - specimen taken from initial contact until 28 days from rash onset and should reach the laboratory in a suitable state for testing*
- *Inadequate blood specimen - specimen collected beyond 28 days from rash onset or no blood specimen collected*

Processing and Handling

1. Carefully transfer or decant the serum into a cryovial labelled with the patient's name, age/sex and date of collection. AVOID MIXING RED BLOOD CELLS WITH THE SERUM AS THESE HEMOLYSE DURING STORAGE.
2. Store serum at 4-8°C until shipment takes place, or for a maximum of 7 days. If a delay in shipment is anticipated, serum samples must be frozen at –20°C or lower.

Storage and Transport of Specimen

1. The serum sample shall be placed in a re-sealable plastic bag or pouches containing absorbent materials such as cotton to soak up any leakage that may occur. Insulated containers shall be used to contain the sealed bags of specimen.
2. The case investigation form shall be sealed in a separate plastic bag and enclosed within the shipping box.
3. Place the specimens in the transport box with frozen ice packs no less than 4 pieces fitted around the specimens.
4. Arrange shipment such that arrival of specimens at RITM does not fall on weekends or holidays. Otherwise, make advance notice of such arrival via telephone, fax or e-mail.

5. Address shipment to:

Virology Department
Research Institute for Tropical Medicine-Virology Department
9002 Research Drive, Filinvest Corporate City Compound
Alabang, Muntinlupa City, 1781
Tel. No. (02) 809-7120

NOTE: *SPECIMENS SHALL BE SHIPPED WIHTIN 48 HOURS (2 DAYS) AFTER COLLECTION TO ENSURE ARRIVAL AT RITM WITHIN 72 HOURS (3 DAYS)*

Alternative Laboratory Procedure

Dried Blood Spot (DBS)

Dried blood spot samples shall only be used as an alternative means of specimen collection where there is difficulty in extracting blood (e.g. neonates/infants, no medical technologist or phlebotomist), and maintaining specimen at 2-8°C during storage and transport (i.e. selected island barangays, municipalities or RHUs, and provinces, lack of specimen storage facilities and no local courier). Collection shall be done by medical, paramedical and other trained personnel (doctors, medical technologists, nurses, midwives, etc).

Dried Blood Spot (DBS) procedure:

1. Label the DBS card with patient's name, age, sex, date of birth, date of collection and the DRU. The information on the label must be legible and shall match the information on the

CIF. Label must remain attached under all conditions of storage and transport.

2. Clean each individual finger (either side of the middle or 4th finger), or the side of the heel in the case of a very young child (those who are not capable of walking on their own) with alcohol, then prick with a sterile, single use microlancet.
3. Hold the finger or side of the heel face down to the DBS card (i.e. Whatman S & S No. 903) and allow blood to fill completely at least 3 circles. DO NOT LET THE FINGER OR HEEL TOUCH THE PAPER. Blood must soak all the way through the paper.
    - Alternatively, a venous blood sample (about 1 ml) can be collected and immediately dropped unto the circles of the DBS card.
4. Allow the blood spots to dry thoroughly (at least 60 minutes). DO NOT HEAT. Place the dried blood spots in a re-sealable bag with desiccant (if available) individually to prevent possible cross contamination and to protect from dust and moisture during storage.
5. Samples can be stored at room temperature for a maximum of two weeks if immediate shipment is not possible.

Handling and Transport

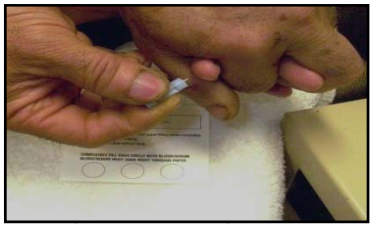
1. Place the individually packed DBS in an envelope big enough to accommodate the number of DBS. Ship the DBS sample via ordinary postage.
2. Although samples do not need to be kept refrigerated or frozen during transport, it is advisable to store it in a cool place and transport to the laboratory/RITM-Virology Department as soon as possible.

DIAGRAM-Collection of Dried Blood Spots (DBS)

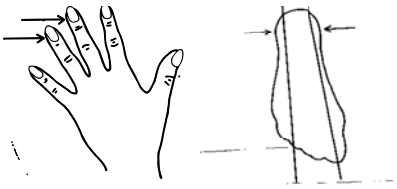
1. Supplies required

Initial requirements
Pencil/pen – Label card with name, DOB, Sex
Case Investigation form
Vinyl/latex gloves for person taking blood
For blood collection
Single use sterile lancet, Alcohol swab
Filter paper collection card, Ziplock bag (small plastic bag) with desiccant

2. Pricking the finger or sides of heel

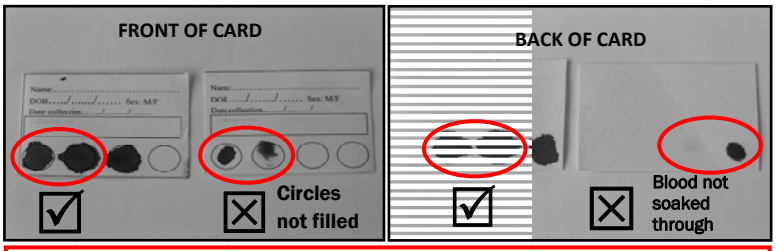


Arrows show the best areas for skin



3. Collecting an adequate sample

Fill the circle completely with blood drop. Blood must soak <u>all the way</u> through the paper



The best flow of blood for a dried blood sample is obtained if the skin puncture is directed to either side of the middle or 4th finger, where the skin is softest, least sensitive and has many blood vessels.
For infants and small children the sides of the heel as pictured are the best areas for skin puncture.

Hold finger face down to card and allow blood to drop onto card to fill at least 3 circles. Do not let the finger or the heel touch the card. ***Air dry blood spots at room temperature completely for at least 1 hr before packaging with desiccant. DO NOT HEAT.***

Oropharyngeal and/or Nasopharyngeal Swab for Virus Isolation

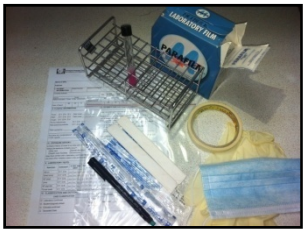
Oropharyngeal and Nasopharyngeal Swab (OPS/NPS) are the most appropriate specimens for virus isolation. OPS/NPS shall be collected as soon as possible within five (5) days of rash onset from any cluster of suspected measles cases. The probability that the measles virus can be isolated is highest during the first 3 days of rash onset.

In OPS/NPS, the response team shall consider the guide below in collecting samples:

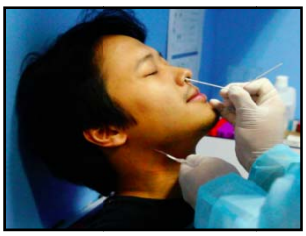
- ✓ 3 cases - collect at least 1-2 samples
- ✓ 5 cases - collect a minimum of 3 samples
- ✓ 10 cases - collect a minimum of 5 samples
- ✓ ≥10 or more cases - collect a minimum of 10 samples

Nasopharyngeal swab (NPS) procedure:

1. Using a flexible Dacron or Rayon tip swab, measure from the base of the nostril towards the auditory pit. Divide the length into half in order to know into what extent will it be inserted into

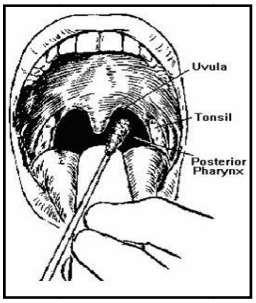


the nostril (usually 5–6 cm in adults) to ensure that it reaches the posterior pharynx.



2. With the patient seated, tilt the head slightly backwards. Insert the swab into the nostril parallel to the palate.
3. Rotate swab applying a little force taking large quantities of mucosa.
4. Repeat procedure in the other nostril using the same swab (if possible)
5. Place the nasopharyngeal swab immediately in the VTM tube to avoid drying of the swab.
6. Break/cut with scissors the end of the swab that sticks out of the tube and close the tube.

Oropharyngeal swab (OPS) procedure:



1. With gloved hands, hold down the tongue with a sterile tongue depressor.
2. Have the patient say "aahh" to elevate the uvula.
3. Use a sweeping motion to swab the posterior pharyngeal wall and tonsilar pillars. Apply a little force, taking large quantities of mucosa.
4. Avoid swabbing the soft palate and do not touch the tongue with the swab tip. (N.B. this procedure can induce the gag reflex)
5. Place the oropharyngeal swab immediately in the same VTM tube with the nasopharyngeal swab.

6. Break/cut with scissors the end of the swab that sticks out of the tube and close the tube tightly.
7. Secure the cap with parafilm to prevent leakage during transport.
8. Store inside the refrigerator (2-8°C)/thermobox with ice packs while awaiting transport.

Processing and Handling

1. Wrap VTM tubes with specimens in any absorbent material (e.g. cotton/tissue paper); place upright in any leak/puncture proof container and place everything in a resealable plastic bag (Ziplock™).

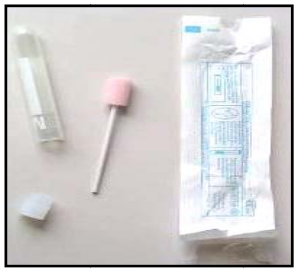
Transport

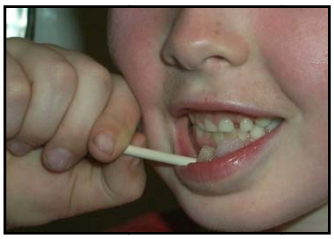
1. The laboratory request form shall be sealed in a separate plastic bag and enclosed within the shipping box.
2. Place the specimens in the transport box with frozen ice packs no less than 4 pieces fitted around the specimens.
3. Arrange shipment such that arrival of specimens at RITM does not fall on weekends or holidays. Otherwise, make advance notice of such arrival via telephone, fax or e-mail.
4. Transport to RITM immediately or within 72 hours after collection using the specific address below.

Virology Department
Research Institute for Tropical Medicine-Virology Department
9002 Research Drive, Filinvest Corporate City Compound
Alabang, Muntinlupa City, 1781
Tel. No. (02) 809-7120

Oral fluid (OraCol™) swab procedure

1. The sponge swab of the OraCol device is designed to be used like a toothbrush.
2. Rub the sponge swab along the gums (at the base of the teeth, if present) until the sponge swab is wet. This takes about a minute.





3. Place the wet sponge swab inside the clear plastic tube and replace cap, sealing it tightly. Write the name of the patient and the date on the label of the tube.

Processing and Handling

1. The oral fluid sample can then be stored at 4-8°C or –20°C until ready for shipment to the laboratory.

Transport

1. The laboratory request form shall be sealed in a separate plastic bag and enclosed within the shipping box.
2. Place the specimens in the transport box with frozen ice packs no less than 4 pieces fitted around the specimens.
3. Arrange shipment such that arrival of specimens at RITM does not fall on weekends or holidays. Otherwise, make advance notice of such arrival via telephone, fax or e-mail.

Transport to the RITM-Virology Department as soon as possible to the address below.

Virology Department
Research Institute for Tropical Medicine-Virology Department
9002 Research Drive, Filinvest Corporate City Compound
Alabang, Muntinlupa City, 1781
Tel. No. (02) 809-7120

CASE CLASSIFICATION

Confirmed measles cases: cases under classification 1 and 4
Discarded as non measles cases: cases under classification 2, 3, 5 and 7

Epi-linked to lab confirmed = cases with a credible mode of transmission from a lab confirmed or another epi-linked case 7-21 days prior to rash onset
***includes other laboratory confirmatory tests**
****** Expert Review Committee**

Source: *Measles Elimination Field Guide, WPR/DCC/EPI(04)/2012/INF./*

Laboratory-confirmed measles case

- A suspect measles case with a positive laboratory test result for measles-specific IgM antibodies or other approved laboratory test method.

Epidemiologically-linked/Epi-linked confirmed measles

- A suspect measles case that has not been confirmed by a laboratory but that is geographically and temporally related (with dates of rash onset occurring between 7 and 21 days apart) to a laboratory-confirmed case or (in the event of an outbreak) to another epidemiologically confirmed measles case

  A case confirmed by epidemiologic linkage is a suspected measles case with a **credible mode of transmission** from a laboratory confirmed case or another epidemiologically-confirmed case 7 to 21 days prior to rash onset.

  The following situations are considered credible and should be considered:

  - ✓ *A case in the same village or urban community*
  - ✓ *A case in a neighboring community with contact occurring through schools, markets and social events*
  - ✓ *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 compatible case

- A case that meets the suspect case definition for measles but for which no adequate blood specimen was taken and which has not been linked epidemiologically to another case positive for measles IgM or another laboratory-confirmed communicable disease

Laboratory-confirmed rubella case

- A suspect measles case with a positive laboratory test result for rubella-specific IgM antibodies or other approved laboratory test method.

Epidemiologically-linked/Epi-linked confirmed rubella

- Cases with a credible mode of transmission from a laboratory confirmed rubella case or another epidemiologically-confirmed rubella case 7 to 21 days prior to rash onset.

Discarded as non-measles/non-rubella

- A case that meets the clinical case definition for measles and that has been investigated and discarded as non-measles / non-rubella case using
  a. laboratory testing in the National Measles Reference Laboratory (NMRL) in RITM
  b. epidemiologic linkage to an outbreak that has been confirmed by a laboratory not to be measles/rubella

*Measles compatible cases, for which an alternative diagnosis can be made, can be reviewed by the Expert Review Committee (ERC) and may then be **discarded as non-measles**. If the information is insufficient for them to be discarded, the cases will remain as **measles compatible**. The ERC cannot confirm cases without adequate specimens and epi-linkage on clinical grounds.*

SURVEILLANCE PERFORMANCE INDICATORS

- ≥80% of cases were reported within 24 hours after rash onset
- ≥80% of cases were investigated within 48 hours of notification
- ≥80% of specimens should be taken from initial contact until 28 days post rash onset and should reach the laboratory in a suitable state for testing
- ≥80% of outbreaks must have sufficient samples for viral isolation
- ≥80% of specimens must be tested and the results made available to the RESU within 7 days of receipt of specimens in the laboratory

FREQUENTLY ASKED QUESTIONS

1) ***What is measles-rubella surveillance and why is it important?***

Measles-rubella surveillance is an intensive case-based surveillance used to detect, investigate and confirm every suspected measles-rubella case in the community and identify high-risk populations to predict and prevent potential outbreaks. Information is used to assess progress towards measles elimination goals and to assist in rubella control.

The Philippines is now in the measles elimination phase achieving high levels of population immunity against measles and low incidence with periodic outbreaks. The target for measles elimination is less than 1 confirmed measles case per 1,000,000 population.

2) ***What is the importance of blood specimen collection in suspect measles-rubella cases?***

Since there are many differential diagnoses for suspect measles-rubella case, a laboratory confirmation is important.

In line with the elimination phase, blood samples should be taken from the suspected measles cases.

3) ***Why should we collect NPS/OPS during outbreaks?***

Nasopharyngeal/Oropharyngeal swab is important to identify the strains of the isolated virus.

4) ***What are the conditions that would result to a low chance of detecting measles IgM from the blood specimen?***

When the required temperature (4-8 degrees centigrade) for transport of specimens to RITM is not maintained.

When the specimen is not transported to RITM within 3-5 days after collection.

Thus, ensuring proper storage temperature and transport procedures are important.

5) ***When can we use DBS as a method of collecting blood specimen?***

Dried blood spot samples shall only be used in areas where there is difficulty in extracting blood and maintaining specimen at 2-8°C during storage and transport (i.e. island barangays, municipalities or RHUs, and provinces, lack of specimen storage facilities and no local courier) of specimen/s to RITM. Collection will be done by medical, paramedical and other trained personnel (doctors, medical technologists, nurses, midwives, etc).

6) ***Who should report measles-rubella and to whom?***

Identified suspected measles-rubella cases should be reported by the point person/DSCs. Any reported cases from the DRAs (e.g. physicians, nurse, midwife, BHWs, traditional healer) should be verified by the DSOs and should be investigated within 24-48 hours using the standard case investigation form.

7) ***What is the importance of completely filled-out CIF from each measles-rubella case?***

- ✓ *For proper case classification*
- ✓ *For follow-up and contact tracing*

8) ***What do you mean by clustering of suspect measles cases?***

If there is 2 or more measles cases reported from one barangay/municipality within a period of 4 weeks

9) ***What is a measles outbreak?***

Under the WHO guidelines, one laboratory-confirmed case during the elimination phase constitutes an outbreak.

Conduct a descriptive outbreak investigation to determine vulnerable population/age group and consider logistics and manpower availability.

10) ***What are the response activities for clustering of measles case?***

There should be an outbreak response team which includes the following:

- ✓ *Local Health units to facilitate coordination, communication and mobilization activities for a multi-sectoral outbreak investigation*
- ✓ *ESU staff to conduct epidemiologic investigation*
- ✓ *EPI staff to plan and conduct Outbreak Response Immunization (ORI)*
- ✓ *Health Education Promotion Officer (HEPO) to conduct advocacy and awareness activities*

Neonatal Tetanus

STANDARD CASE DEFINITION

Suspected case:

- Any neonatal death from 3 to 28 days of age in which the cause of death is unknown,

OR

- Any neonate reported as having suffered from neonatal tetanus from 3 to 28 days of age and not investigated.

Confirmed case:

- Any neonate that sucks and cries normally during the first 2 days of life, and becomes ill from 3 to 28 days of age and develops both an inability to suck and diffuse muscle rigidity (stiffness), which may include trismus, clenched fists or feet, continuously pursed lips, and/or curved back (opisthotonus),

OR

- A neonate from 3 to 28 days of age diagnosed as a case of tetanus by a physician.

- *The case classification of NT is based solely on clinical criteria and does not depend on laboratory confirmation*
- *The date of birth is considered as the first day of life*

CASE DETECTION AND NOTIFICATION

Differential Diagnosis

- ✓ Sepsis Neonatorum
- ✓ Unexplained neonatal deaths

CASE INVESTIGATION

Case investigation should be done within 48 hours upon notification. Complete investigation includes completion of the standard case investigation form.

1) Verify if the case satisfies the case definition of NT

Any reported cases from the DRA/DSC should be verified by the DSO/ESU using the following questions:

Question	Answer	Remarks
1) Is/was the baby 3-28 days of age?	Yes	
2) In the first 2 days of life, did the baby suck and cry normally?	Yes	
3) After 2 days of life, did the baby have the following signs of rigidity/stiffness? • Trismus/pursed lips • Clenched fists or feet and/or • Curved back (opisthotonus)	Yes	

2) Interview the guardian and examine the case

The DSO should interview the patient's family using the **standard case investigation form**. Make sure that the case's CIF is completely and accurately filled out including:

a. Case's complete and exact address with the name and number of the barangay.
b. Pre-natal care including TT immunization history of the mother
c. History of delivery including birth attendant, place of delivery, cord cutting tool and cord care practices

The DSO should also check the condition of the umbilical cord. An infected cord as manifested by the presence of pus or bad smell is indicative of possible NT infection.

Complete history taking is essential in the classification of neonatal tetanus.

3) Collect additional information

- Whether the case is hospitalized or not, the investigator should review case's medical data for any additional information for the completion of the CIF.

- It is vital to discuss the case with the attending physician since the information found on patient's chart sometimes lacks details that are essential in confirming an NT case.

4) Submit completed NT CIF

Submit the completed CIF immediately upon investigation to the respective ESUs or to the next higher level and to NEC.

Coordinate with Maternal, Neonatal and Child Health (MNCH) coordinators for appropriate action (e.g. maternal or neonatal death review)

SURVEILLANCE PERFORMANCE INDICATORS

- ≤1 NT case per 1000 live births per province/city/municipality per year
- ≥ 80% of cases were reported within 24 hours after detection
- ≥ 80% of cases were investigated within 48 hours of notification

FREQUENTLY ASKED QUESTIONS

1) ***What is NT surveillance and why is it important?***

Neonatal tetanus surveillance is a way of monitoring neonatal tetanus cases in the Philippines. The data are used to verify whether neonatal tetanus has been eliminated.

2) ***When should we suspect a case of neonatal tetanus?***

A neonate who died between 3-28 days of age and the cause of death is unknown should be a case of suspected neonatal tetanus. In addition, any neonate reported as having suffered from neonatal tetanus between 3-28 days of age and not investigated is also considered a suspected case of neonatal tetanus.

3) ***Is there a laboratory test to confirm the diagnosis of neonatal tetanus?***

None. Neonatal tetanus is confirmed through clinical diagnosis using the following case definition:

- ✓ *Any neonate (≤ 28 days of life) that sucks and cries normally during the first 2 days of life, and becomes ill between 3 to 28 days of age and develops both an inability to suck and diffuse muscle rigidity (stiffness), which may include trismus, clenched fists or feet, continuously pursed lips, and/or curved back (opisthotonus).*
- ✓ *A neonatal tetanus is also considered confirmed if the case is diagnosed by the physician as such.*

4) ***What other diseases that should be assessed to rule out the possibility of neonatal tetanus?***

- ✓ *Sepsis Neonatorum*
- ✓ *Other neonatal deaths with unknown causes*

5) ***What are the strategies that may contribute to NT elimination?***

- ✓ *TT vaccines should be given to women of childbearing age*
- ✓ *Advocate facility based delivery*
- ✓ *Advocate to practice proper cord care*

6) ***What are the basic information that need to be obtained from every suspected neonatal tetanus cases?***

- ✓ *Full Name*
- ✓ *Date of Birth*
- ✓ *Date Onset*
- ✓ *Date of Admission*
- ✓ *Date of Report*
- ✓ *Date of Investigation*
- ✓ *Tetanus Toxoid Doses of Mother*
- ✓ *Place of Delivery*
- ✓ *Cord Cutting Tool Used*
- ✓ *Cord Care Practice*
- ✓ *Delivery Attendants*
- ✓ *Outcome*

7) ***What are the priority activities that should be done in areas with a confirmed case of neonatal tetanus?***

- ✓ *Look for other neonatal tetanus cases in the community*
- ✓ *Assess the immunization coverage*
- ✓ *Plan for community awareness*

Annexes

ANNEX A: VPD SURVEILLANCE INDICATORS

AFP Surveillance		
Indicator	Target	Formula
Annual AFP Reporting Rate	≥2 per 100,000 in children under 15 years	No. of AFP cases reported in a given year No. of target AFP cases in a year
Annualized AFP Reporting Rate	≥2 per 100,000 in children under 15 years	No. of AFP cases reported in a specified period (No. of target AFP cases in a year/12) x N *N=number of the month to be analyzed* *For example, 1=January, 2=February, 3=March and so on*
Annual Non-polio AFP Rate	≥2 per 100,000 in children under 15 years	No. of non-polio AFP cases reported in a given year No. of target AFP cases in a year
Annualized Non-polio AFP Rate	≥2 per 100,000 in children under 15 years	No. of non-polio AFP cases reported in a specified period (No. of target AFP cases in a year/12) x N *N=number of the month to be analyzed* *For example, 1=January, 2=February, 3=March and so on*
Adequate Stool Collection Rate	≥80%	No. of AFP cases with adequate stool x 100 Total no. of reported AFP cases
NPEV Rate	≥10%	No. of stool samples with NPEV isolates x 100 Total no. of stool samples collected

Indicator	Target	Formula
Timeliness of Reporting	≥80%	No. of cases reported within 14 days of paralysis onset / Total no. of reported AFP cases x 100
Timeliness of Investigation	≥80%	No. of AFP cases investigated within 48 hours of report / Total no. of reported AFP cases x 100
Timeliness of 60-day follow-up	≥80%	Total no. of AFP cases ff-up on 60th day from paralysis onset / Total no. of reported AFP cases due for follow-up x 100
Timeliness of receipt of stool specimens	≥80%	No. of stool specimens received at RITM w/in 3 days of collection / Total no. of specimens received at RITM x 100
Timeliness of Classification	≥80%	No. of cases classified < 90 days of paralysis onset / Total no. of reported AFP cases x 100
Completeness of Weekly Reporting	≥80%	No. of AFP mdb files received from the reporting unit / specific time period x 100
Timeliness of Weekly Reporting	≥80%	No. of AFP mdb files received on or before the deadline of the reporting unit / specific time period x 100
Completeness of Reporting by DRUs	≥80%	No. of DRUs reporting AFP cases and zero reports / Total no. of DRUs trained in PIDSR x 100

REMINDER: All cases considered as "NOT AFP" after an Expert Panel Review should not be included in any of the AFP data analysis

Measles Surveillance		
Indicator	Target	Formula
Confirmed Measles Incidence Rate	<1 per 1,000,000 of the total population	No. of confirmed measles cases (Total population / 1,000,000)
Annual Suspect Measles Reporting Rate	≥2 per 100,000 of the total population	No. of suspect measles cases reported in a given year No. of target suspect measles cases in a year
Annualized Suspect Measles Reporting Rate	≥2 per 100,000 of the total population	No. of suspect measles cases reported in a specified period (No. of target suspect measles cases in a year/12) x N *N=number of the month to be analyzed* *For example, 1=January, 2=February, 3=March and so on*
Annual Non-measles Reporting Rate	≥2 per 100,000 of the total population	No. of non-measles cases reported in a given year No. of target non-measles cases in a year
Annualized Non-measles Reporting Rate	≥2 per 100,000 of the total population	No. of non-measles cases reported in a specified period (No. of non-measles cases in a year/12) x N *N=number of the month to be analyzed* *For example, 1=January, 2=February, 3=March and so on*
Adequate Specimen Collection Rate	≥80%	No. of suspect measles cases with adequate specimen x 100 Total no. of reported suspect measles cases
Timeliness of Reporting	≥80%	No. of suspect measles cases reported/notified within 24 hours x 100 Total no. of reported suspect measles cases

Indicator	Target	Formula
Timeliness of Investigation	≥80%	No. of suspect measles cases investigated within 48 hours of report / Total no. of reported suspect measles cases x 100
Outbreaks with sufficient samples for virus isolation	≥80%	No. of outbreaks with sufficient samples for viral isolation / Total no. of measles outbreaks x 100
Timeliness of Laboratory Results	≥80%	No. of specimens with test results available w/in 7 days from receipt at the laboratory / Total no. of specimens submitted to RITM for testing x 100
Completeness of Weekly Reporting	≥80%	No. of measles mdb files received from the reporting unit / specific time period x 100
Timeliness of Weekly Reporting	≥80%	No. of measles mdb files received on or before the deadline of the reporting unit / specific time period x 100
Completeness of Reporting by DRUs	≥80%	No. of DRUs reporting measles cases and zero reports / Total no. of DRUs trained in PIDSR x 100

Neonatal Tetanus Surveillance		
Indicator	Target	Formula
NT Incidence Rate	<1 per 1,000 live births	No. of confirmed NT cases live births per 1,000 population
Timeliness of Reporting	≥80%	No. of confirmed NT cases reported/notified within 24 hours Total no. of reported confirmed NT cases x 100
Timeliness of Investigation	≥80%	No. of confirmed NT cases investigated within 48 hours of report Total no. of reported confirmed NTcases x 100
TT dose of mothers of confirmed NT cases		TT dose of mothers of confirmed NT cases Total no. of confirmed NT cases x 100
Proportion of place of delivery of confirmed NT cases		Confirmed NT cases delivered at a specified place Total no. of confirmed NT cases x 100
Proportion of cord-cutting tools used on confirmed NT cases		Specific cord-cutting tool used Total no. of confirmed NT cases x 100
Proportion of delivery attendant of confirmed NT cases		Confirmed NT cases delivered by a specified attendant Total no. of confirmed NT cases x 100

Indicator	Target	Formula
Completeness of Weekly Reporting	≥80%	No. of NT mdb files received from the reporting unit / specific time period x 100
Timeliness of Weekly Reporting	≥80%	No. of NT mdb files received on or before the deadline of the reporting unit / specific time period x 100
Completeness of Reporting by DRUs	≥80%	No. of DRUs reporting NT cases and zero reports / Total no. of DRUs trained in PIDSR x 100

ANNEX B: NOTIFICATION & REPORTING FLOW