Republic of the Philippines
Department of Health
OFFICE OF THE SECRETARY

February 18, 2012

ADMINISTRATIVE ORDER
No. 2012 - 0003

SUBJECT: Guidelines on Strengthening Laboratory Confirmation of Suspected Measles Cases

I. BACKGROUND AND RATIONALE

In 2005, the countries of the Western Pacific Region of the World Health Organization (WHO) adopted the goal of measles elimination. To achieve this, the WHO recommends that countries strengthen three areas of their Expanded Programme for Immunization. These areas are: 1) universal high population immunity through increased coverage; 2) high case-based quality surveillance; and 3) adequate laboratory support for confirmation of diagnosis.

World Health Organization guidelines in support of the goal of measles elimination state that any person satisfying the suspect case definition of measles shall be immediately reported, investigated and a blood specimen collected to confirm whether the suspected case is indeed a case of measles. Effective surveillance for measles entails establishing case-based surveillance that includes investigation and laboratory testing of specimens from all suspected cases. Such surveillance system will also identify rubella cases through laboratory confirmation. As the country progresses towards measles elimination, reporting of rubella cases will be implemented and incorporated into the measles surveillance system.

The laboratory plays an important role in measles surveillance. In the elimination phase, it is well established that surveillance based on clinical recognition of cases is inaccurate and that laboratory confirmation of all suspected cases is critical for effective surveillance and proper program planning. It is in this light that confirmation of suspected measles cases through laboratory testing needs to be
enhanced.

1. Monitoring and verifying virus transmission:

-Confirmation of suspect cases/ outbreaks: confirm the clinical diagnosis, especially in the early stages of an outbreak

-Identification of measles and rubella virus strains and genetic characteristics of Viral isolates

-Differentiate endemic or imported cases: monitor circulation of wild genotypes to define pathways of transmission! importation

2. Monitoring susceptibility profile of the population

-Determination of the age distribution of susceptibility to measles and rubella in order to assess population at risk and appropriate intervention to reduce risk.

-Evaluation of the impact of the immunization campaigns

Quality measles surveillance requires laboratory confirmation of at least 80% of the reported suspected measles cases. However, during elimination phase, all suspected measles cases require laboratory confirmation. This shall serve as the evidence of the country's achievement and maintenance of the elimination status.

11. OBJECTIVES

A. General Objective:

This administrative issuance sets the guidelines for strengthening laboratories in support of the goal of measles elimination.

B. Specific Objectives:

-To strengthen measles case-based surveillance

-To strengthen detection of rubella cases through measles surveillance and laboratory confirmation

-To evaluate impact of the measles and rubella routine and supplemental immunization activities in interrupting measles transmission and achieving control of rubella through efficient laboratory confirmation

-To establish the use of dried blood spot (DB8) and nasopharyngeal swab (NPS) as other methods of confirming suspect cases

-To implement standards for the collection, handling, storage and transport of DB8 and NPS samples

III. SCOPE AND COVERAGE

This issuance shall apply to the entire health sector, to include public and private health facilities

both at the national and local government units involved in disease surveillance and response activities (refer to A0. No. 2007-0036: Guidelines on the Philippine Integrated Disease Surveillance and Response).

IV. DEFINITION OF TERMS, ABBREVIATIONS & ACRONYMS

Case Investigation Form

Refers to reporting form that allows collection of standard (CIF) information to acquire epidemiological study of disease incidence and disease patterns

Cluster

Defined as two or more persons presenting with manifestations of a suspect measles case that are detected with onset of illness within a period of 7 to 21 days and in the same geographical area and/or are epidemiologically linked

Contacts

Are all persons living in a household of other close quarters with the case during the infectious period (5 days before to 5 days after the onset of rash)

Disease Reporting Unit
(DRU)

This includes all health facilities (rural health units, hospitals, laboratories, seaports and airport are considered DRUs)

Epidemiologically-Linked
Measles Case

Defined as a suspected measles case who was not discarded and who:

-had contact with a laboratory confirmed case or another epidemiologically-linked case within 7 -21 days before rash onset and

-the other epidemiologically-linked or laboratory confirmed case was infectious at the time of contact (ie. contact was 5 days before and 5 days after rash onset)

Immuno globulin Class M
(IgM)

An antibody detected to confirm suspect measles cases

Provincial Epidemiology
and Surveillance Unit
(PESU)

Refers to the unit established in the Provincial Health Offices that provides services on public health surveillance and epidemiology

Philippine Integrated
Disease Surveillance and
Response (PIDSR)

Refers to the Philippines process of coordination, prioritizing, and streamlining of core surveillance activities (e.g., data collection, reporting, laboratory and epidemiological confirmation, analysis and feedback), support functions (e.g., training, monitoring, financial and logistics) and response (e.g.. epidemic investigation) with the aim of making the system more efficient and effective in providing timely, accurate and relevant information for action

Regional Epidemiology and
Surveillance Unit (RESU)

Refers to the unit established in the Centers for Health Development or the DOH regional offices that provide services on public health surveillance and epidemiology

Research Institute For
Tropical Medicine (RITM)

It houses the Department of Virology which is the national measles reference laboratory

Rural Health Unit (RHU)

Refers to the unit established in the rural health units that provides services on public health surveillance and epidemiology

Suspected Measles Case

Any individual, regardless of age, with history of fever (38°C or more) or hot to touch, generalized non-vesicular rash of 3 or more days duration; and at least one of the following cough, coryza, or conjunctivitis

V. DECLARATION OF POLICIES

A. Global Immunization Vision Strategy (GIVS) proposed a new measles ' mortality reduction of 90% by 2010 with the following major challenges: (i) measles mortality reduction activities in several large countries with high measles burden, (ii) enhanced efforts are needed to improve immunization systems to ensure that at least 95% of infants are vaccinated with measles before their first birthday, (iii) continue conduct “follow-up" SIAs every 3-4 years until their routine system are capable of providing two opportunities for measles immunization to >90% of every birth cohort, (iv) disease surveillance at district, provincial and national levels need to be strengthened to enable case-based surveillance with testing of clinical specimens from suspected cases in the laboratories. This was endorsed in the World Health Assembly 2005

B. In 1996, the Regional Office of the Western Pacific (WPRO) established a “Plan of Action (POA) for Accelerated Measles Control". By 2003, the region’s vision had moved to elimination with the publication of the “Western Pacific Regional FDA for Measles Elimination", that covered the years 2003- 2005. The Regional Office published the Field Guidelines for Measles Elimination in 2004 and in 2005, a second Regional Committee (RC) resolution established 2012 as the target date for measles elimination '

C. In light of the proven efficacy and safety of the Regional Advisory (RA) 27/3 bases rubella vaccine, WHO recommends its use in all countries where control or elimination of Congenital Rubella Syndrome (CRS) is considered a public health priority. Current efforts in global measles control shall be used as an opportunity to pursue control of rubella through the use of Measles Rubella (MR) and Measles Mumps Rubella (MMR) vaccines

D. WHO—UNICEF comprehensive strategy for reducing measles mortality among priority countries with the following goals: (i) achieving and maintaining high coverage (>90%) of the lSt dose of measles—containing Vaccine (MCVl) among all children by the age of 12 months in every district through routine immunization services, (ii) ensuring that all children receive a second opportunity for measles immunization, (iii) enhancing measles surveillance with integration of epidemiological and laboratory information, and (iv) providing appropriate clinical management for measles cases

VI. IMPLEMENTING MECHANISM

The primary function of the laboratory in measles surveillance is confirming suspect measles cases, either through serology, molecular detection of the virus or virus isolation. The testing of serum specimen for the presence of anti—measles IgM antibodies remains the gold standard for laboratory confirmation of suspect cases occurring both sporadically, in clusters or during outbreaks. Other means of confirmation includes testing of DBS for presence of anti-measles IgM antibodies and/or culture and isolation of measles virus from suspect or clinically confirmed measles cases.

In countries with measles elimination goal and implementing case-based surveillance, the recommendation is to collect either serum or DBS specimen within the first 28 days of rash onset from all suspect measles cases. While the collection of NPS/ OPS specimen for viral isolation must be within the first 5 days of rash onset. Viral isolation provides evidence of elimination of indigenous measles virus, including outbreak source and transmission pathways.

A. Laboratory Procedures for Case Confirmation

1. Use of Serum Samples for IgM testing

A single serum sample obtained at the first contact with the patient at any time within 28 days after rash onset shall be taken from ALL suspected measles @. Serum sample collection remains the GOLD STANDARD for confirming suspect cases under surveillance. Measles-specific IgM antibodies appear within
the first few days of rash onset and decline rapidly after one month. Specimen shall be sent to RITM within 72 hours after collection with the completely filled~ up Measles Case Investigation Form (Annex A.).

Provided that the epidemiological linkage among cases has been
established within a household, specimen shall be taken from the index case (first person that fit the case definition of suspected measles case).

In line with this, it is very important to identify accurate information regarding the exposure history of suspect measles case. The CIF shall contain basic epidemiological information on time, date, place and history of contact with a known measles case. This will help identify origin and path of measles virus transmission.

Patients admitted at hospital facilities and those DRUs (RHU/Health Centers) that have the capacity to collect, store and transport shall have serum sample collected. Procedures for collection, storage and transport of sample are contained in the Annex B.

2. Use of alternative sample (dried blood spot)

Dried blood spot samples shall only be used as an alternative means of specimen collection where there is diffiCulty in extracting blood (e.g. very young infants, no medical technologist or certified phlebotomist), maintaining the
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).

3. Use of Oropharygeal and/or Nasopharyngeal swab for virus isolation

To monitor transmission pathways of measles virus during outbreaks, it is important to collect sample for viral isolation and characterization. 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

In collecting NPS, the response team shall consider the guide below in collecting samples of cases in a cluster/ outbreak:

-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 cases — collect a minimum of 10 samples

Viral isolation is significant to confirm whether the transmissions of indigenous measles strains have been fully eliminated or not. This will certify if the country has achieved the measles elimination goal.

Single or sporadic measles case with history of travel or unknown history of travel shall be collected with samples for both IgM testing (eg. Serum or DB S) and viral isolation (NPS) to determine transmission pathway and differentiate between importation and indigenous transmission.

B. Roles and Responsibilities

1. Research Institute for Tropical Medicine

a. Shall receive all specimens from the DRUs and other allied health units

b. Shall inform the RESU if specimen/s arrives at RITM in bad condition and if recollection is

needed

c. ' Shall process/test the specimens and send timely result to the National Epidemiology Center (NEC), National Center for Disease and Prevention Control (N CDPC) and RESUS

d. Shall build and develop laboratory capacity and networking of laboratories at the national and local levels if needed

e. Shall collaborate with WHO to strengthen molecular surveillance and ' virus identification and share laboratory results (both serology and virus identification) on a monthly basis with WHO country office

2. National Epidemiology Center

a. Shall oversee the implementation of high quality measles surveillance in all regions, province and cities

b. Shall monitor and provide technical support to all regions, provinces and cities that are experiencing low surveillance performance

c. Shall facilitate the provision of logistics for specimen collection to all RESUs

d. Shall facilitate/ensure transport of specimens from the RESU/PESU and RHU

e. Shall ensure the adequacy & timeliness of specimen collected

f. Shall perform the overall coordination and data management

3. Center for Health Development

a. Shall coordinate and investigate suspect measles cases

b. Shall monitor and provide technical support to all provinces and cities that are experiencing low surveillance performance

c. Shall be responsible for regional level surveillance data management

d. Shall ensure the proper and timely collection, storage and transport of specimens to the National Measles Reference Laboratory (e. g. RITM)

e. Shall facilitate the provision of logistics to the hospitals and LGUs Shall send laboratory results to concerned LGUs

4. PESU/PHO/RHU

a. Shall coordinate the reporting and investigation of suspect measles cases

b. Shall be responsible for provincial/city level surveillance data management

c. Shall ensure the proper and timely collection, storage and transport of specimens to the national reference laboratory, RITM and or CHD

d. Shall facilitate the provision of logistics to the hospitals and LGUs

e. Shall ensure that CIFs are completely filled up sealed in a separate plastic bag and enclosed in the shipping box

f.Shall send laboratory results to concerned LGUs

5. All Hospitals

a. All suspected measles cases inpatient and out-patient wards shall be completely investigated with proper documentation

b.Shall collect blood specimen for all suspected measles cases at first contact or within 28 days from rash onset following the standard procedure in specimen collection

c.Shall properly label, store and/transport blood specimens to
ESU/RITM

d. Shall ensure that CIFs are completely filled up sealed in a separate plastic bag and enclosed in the shipping box

e. Shall keep specimen collection kits properly and check for the
expiration date.

Shall coordinate with CHD/ESU for the laboratory results

C. Funding Requirements

Budgetary requirements such as laboratory expenses, logistic support and other laboratory requirements for testing shall be charged against the Research Institute for Tropical Medicine through the support of Department of Health and World Health Organization. The freight and handling of specimen shall be charged against the different CHDs, subject to the usual accounting and auditing rules and regulations.

VII. REPEALING CLAUSE

The provisions of previous Orders and other related issuances inconsistent or contrary with the provisions of this Administrative Order are hereby revised, modified, repealed or rescinded accordingly. All other provisions of existing issuance which are not affected by this Order shall remain valid and in effect.

VIII. EFFECTIVITY

This order shall take effect immediately.

ENRIQUE T. ONA, MD, FPCS, FACS
Secretary of Health

Initial requirements
Pencil/pen – Label card with name, DOB, Sex
Case Investigation form

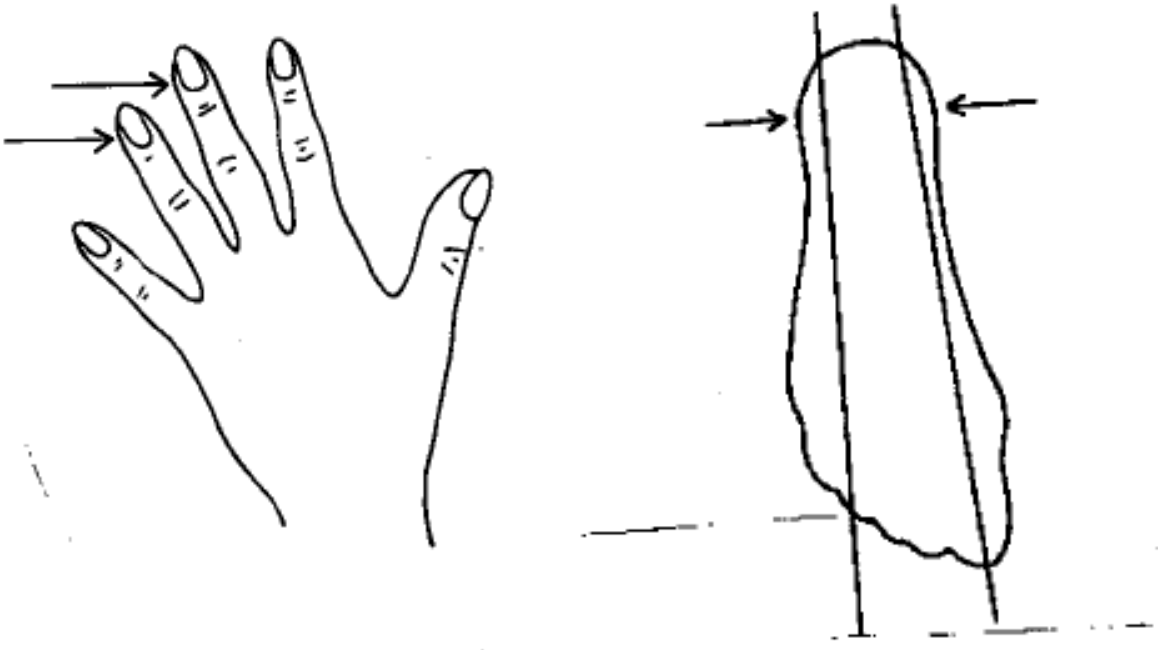
Vinyl/latex gloves for person taking blood

For blood collection
Single use lancet
Alcohol swab

Filter paper collection card

Ziplock bag (small plastic bag) with desiccant

Arrows show the best areas for skin puncture



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