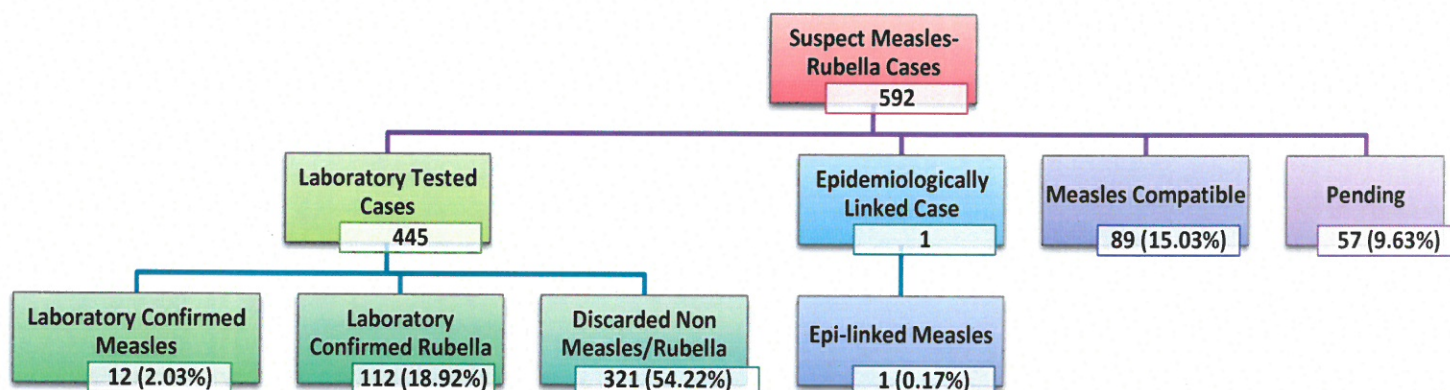




### Classification of Suspect Measles-Rubella Cases

A total of 592 suspect measles-rubella cases were reported nationwide from January 1 to March 18, 2017. Of these, 445 (75%) were tested. Among the suspect cases, 13 cases (2.2%) were classified as **laboratory confirmed or epidemiologically-linked confirmed measles**, while 112 cases (18.92%) were classified as **laboratory confirmed rubella**. This is **133.33%** higher than the previous year (48 cases). Currently, there were no reported deaths among the confirmed measles-rubella cases.

**FIGURE 1. CLASSIFICATION OF SUSPECT MEASLES-RUBELLA CASES, PHILIPPINES, JANUARY 1 – MARCH 18, 2017 (N=592)**



**TABLE 1. MEASLES AND RUBELLA CASES BY REGION PHILIPPINES, JANUARY 1 – MARCH 18, 2017 (N=592)**

REGION	REPORTED	CONFIRMED MEASLES		MEASLES COMPATIBLE	LABORATORY CONFIRMED RUBELLA	DISCARDED AS NON-MEASLES/RUBELLA	PENDING CLASSIFICATION
		LABORATORY CONFIRMED	EPI-LINKED CONFIRMED				
I	59	1	0	5	13	30	10
II	6	0	0	0	0	6	0
III	52	1	0	3	13	35	0
IVA	166	3	0	27	36	83	17
IVB	7	0	0	2	0	1	4
V	11	0	0	1	2	5	3
VI	25	0	0	0	5	17	3
VII	21	0	0	0	3	13	5
VIII	16	0	0	4	9	3	0
IX	15	2	0	5	2	6	0
X	35	2	0	7	3	15	8
XI	16	1	0	0	0	15	0
XII	16	0	0	1	0	14	1
ARMM	3	0	0	1	0	1	1
CAR	22	0	0	7	5	8	2
CRG	9	0	0	3	0	5	1
NCR	113	2	1	23	21	64	2
PHL	592	12	1	89	112	321	57





Morbidity Week 11: January 1 – March 18, 2017

Epidemiology Bureau  
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**FIGURE 2. GEOGRAPHICAL DISTRIBUTION OF CONFIRMED CASES, PHILIPPINES, JANUARY 1 – MARCH 18, 2017**

Region	Measles	Rubella
I	1	13
II	0	0
III	1	13
IVA	3	36
IVB	0	0
V	0	2
VI	0	5
VII	0	3
VIII	0	9
IX	2	2
X	2	3
XI	1	0
XII	0	0
ARMM	0	0
CAR	0	5
CRG	0	0
NCR	3	21
<b>PHL</b>	<b>13</b>	<b>112</b>

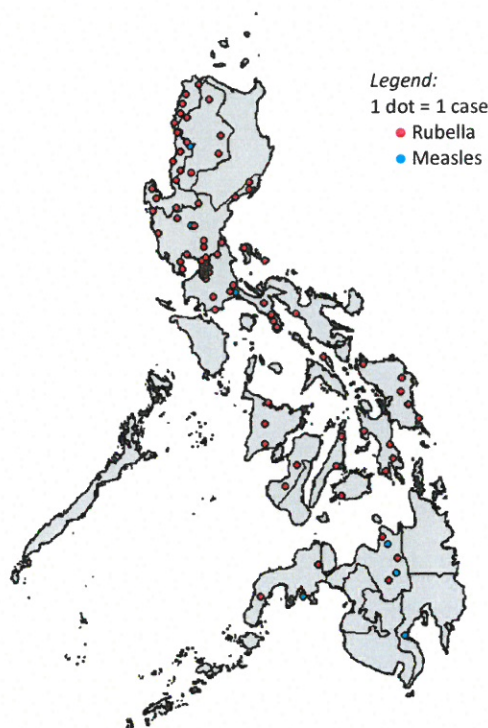


Figure 2 shows the distribution of cases among regions. Region IVA has the highest number of laboratory confirmed rubella cases (36, 32.14%) followed by NCR (21, 18.75%) and Regions I and III (13, 11.61% per region).

**TABLE 2. CONFIRMED MEASLES AND RUBELLA CASES BY REGION PHILIPPINES, 2016 vs. 2017**

REGION	MEASLES CASES			RUBELLA CASES		
	2017	2016	% CHANGE	2017	2016	% CHANGE
I	1	1	⇒ 0.00	13	0	↑ 1300.00
II	0	0	⇒ 0.00	0	0	⇒ 0.00
III	1	1	⇒ 0.00	13	1	↑ 1200.00
IVA	3	0	↑ 300.00	36	4	↑ 800.00
IVB	0	0	⇒ 0.00	0	1	↓ -100.00
V	0	1	↓ -100.00	2	0	↑ 200.00
VI	0	1	↓ -100.00	5	33	↓ -84.85
VII	0	7	↓ -700.00	3	2	↑ 50.00
VIII	0	0	⇒ 0.00	9	0	↑ 900.00
IX	2	2	⇒ 0.00	2	0	↑ 200.00
X	2	0	↑ 200.00	3	0	↑ 300.00
XI	1	0	↑ 100.00	0	2	↓ -200.00
XII	0	1	↓ -100.00	0	1	↓ -100.00
ARMM	0	0	⇒ 0.00	0	0	⇒ 0.00
CAR	0	1	↓ -100.00	5	0	↑ 500.00
CRG	0	1	↓ -100.00	0	0	⇒ 0.00
NCR	3	2	↑ 50.00	21	4	↑ 425.00
<b>PHL</b>	<b>13</b>	<b>18</b>	↓ -27.78	<b>112</b>	<b>48</b>	↑ 133.33

The number of confirmed rubella cases increased significantly by **133.33%** as of morbidity week 11, compared to the same time period last year (see Table 2). No deaths reported for both years.



Morbidity Week 11: January 1 – March 18, 2017

Epidemiology Bureau  
Public Health Surveillance Division

**FIGURE 3. CONFIRMED RUBELLA ALERT AND EPIDEMIC THRESHOLD  
PHILIPPINES, JANUARY 1 – MARCH 18, 2017 (n=112)**

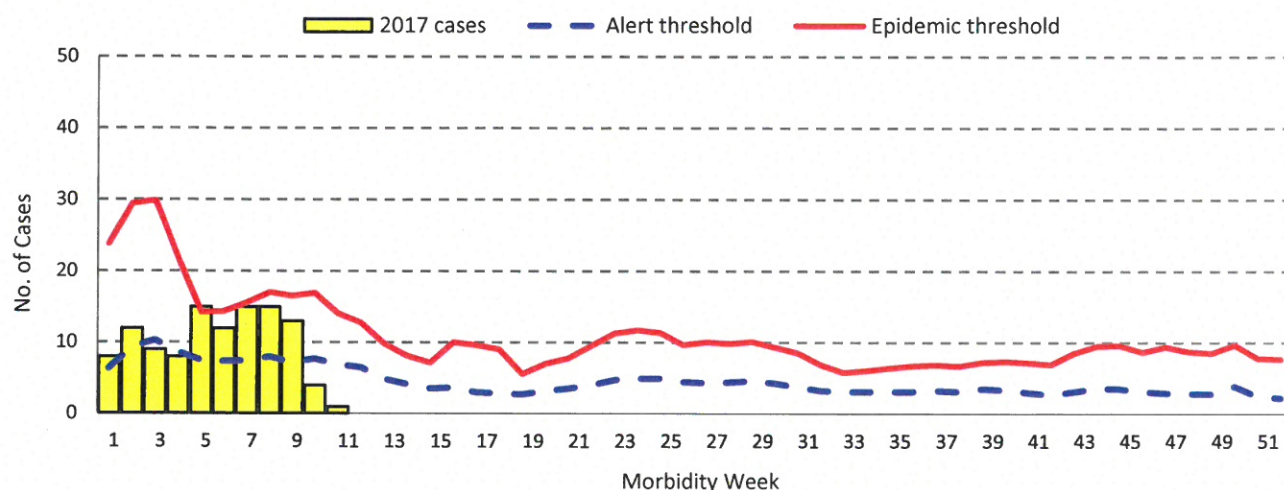


Figure 3 reflects the confirmed rubella cases in relation with the rubella alert and epidemic thresholds. It can be noted that the number of rubella cases exceeded the alert threshold from weeks 1 to 9. It reached the epidemic threshold in morbidity weeks 5 and 7. As of morbidity week 11, rubella incidence rate is 1.07 per 1,000,000 population.

### Virus Isolation and Genotyping

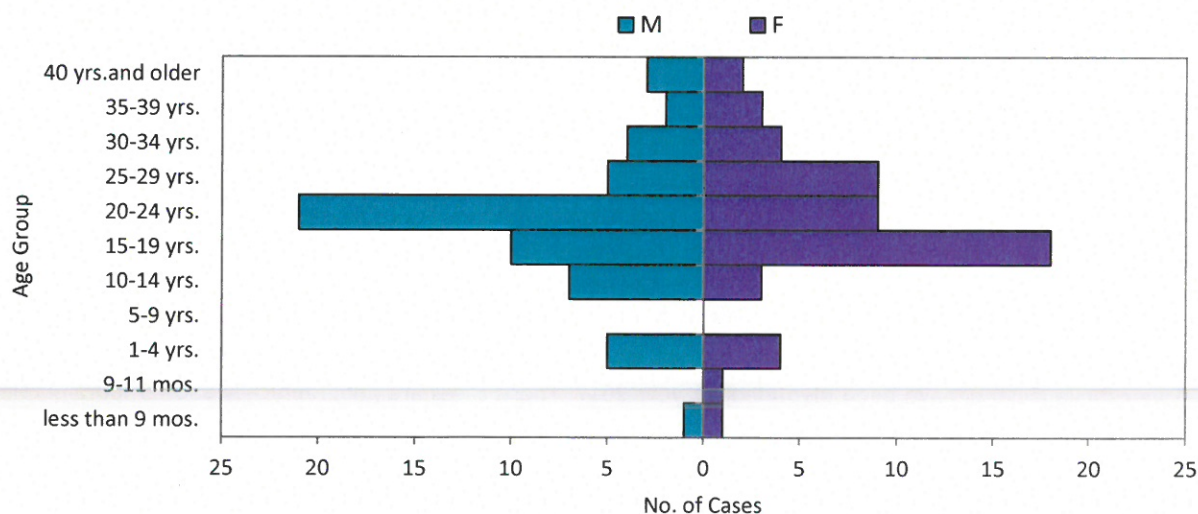
There were 10 oropharyngeal/nasopharyngeal swab samples submitted since January 2017. Among these, only 1 tested positive for rubella virus. Genotype identified for the case was 2B. None of the samples tested positive for measles virus.

## RUBELLA

### Profile of Cases

Of the confirmed rubella cases, 51.79% were male (58 cases). Majority of the confirmed rubella cases belonged to the young adult age group ranging from 20 to 24 years old (26.79%) and followed by the 15-19 years old age group (25%) as shown in Figure 4.

**FIGURE 4. CONFIRMED RUBELLA CASES BY AGE GROUP AND SEX  
PHILIPPINES, JANUARY 1- MARCH 18, 2017 (n=112)**







Morbidity Week 11: January 1 – March 18, 2017

Epidemiology Bureau  
Public Health Surveillance Division

Two (2) confirmed rubella cases reported in January and February were pregnant. One is on her 34<sup>th</sup> week and the other on her 17<sup>th</sup> week. Both cases are currently being monitored by their respective Epidemiology and Surveillance Units (ESUs).

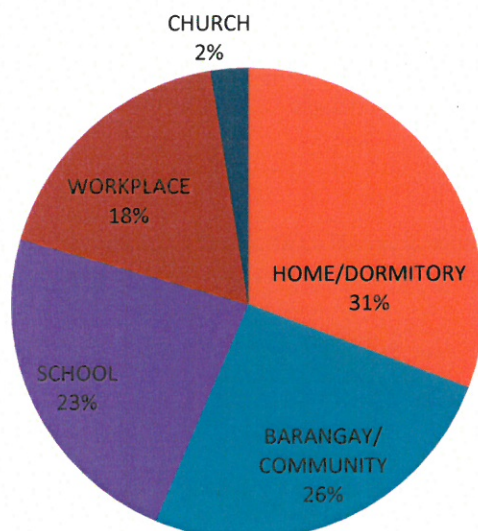
### Immunization Status

MMR vaccine was added to the routine immunization program in 2010 and school-based immunization activities for Grades 1 and 7 were implemented starting 2014. This may explain why majority of the cases were from the age groups not covered by the MMR vaccination. Analysis on MMR vaccination and doses are limited due to incomplete data on the current surveillance database. Among the confirmed rubella cases, 59 reported receiving measles vaccination. Of which, only 2 specified receiving MMR doses.

### Probable Exposure

Of the 112 confirmed rubella cases, only 39 have details on place of probable exposure. Thirty one percent (31%) of the cases were exposed in their homes/dormitories while 26% were exposed in their barangays/communities. (see Figure 5)

**FIGURE 5. CONFIRMED RUBELLA CASES BY PLACE OF PROBABLE EXPOSURE  
PHILIPPINES, JANUARY 1- MARCH 18, 2017 (n=39)**



### Rubella Clusters

MW	Region	Province	Muncity	Barangay	Place of Transmission	No. of Cases
3	V	Camarines Norte	Labo	Malatap	Home/ Dormitory	2
3-7	NCR	Metro Manila	San Juan City	West Crame	Barangay/ Community	4
5-6	IVA	Batangas	Batangas City	Pinamucan Ibaba	Home/ Dormitory	2
5-9	VIII	Northern Samar	San Antonio	Dalupirit San Nicolas	School	8
8-9	III	Pampanga	Mabalacat	Airforce City	Unknown	3

Five rubella clusters have been identified for year 2017. These cases are geographically and temporally related to one another, located in the same barangay or identified place of transmission (e.g. school in Northern Samar) and occurred within 4 consecutive weeks.

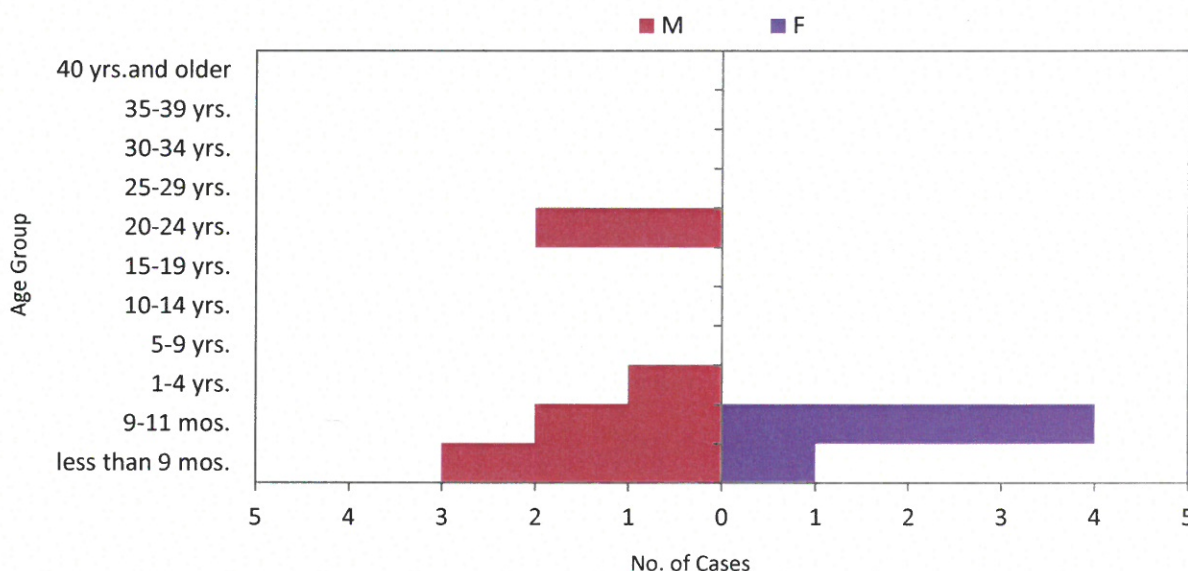


## MEASLES

### Profile of Cases

Sixty two percent (62%) of the confirmed measles cases were male. Majority of the confirmed cases belonged to children aged 9 to 11 months old (46.15%) as shown in Figure 6.

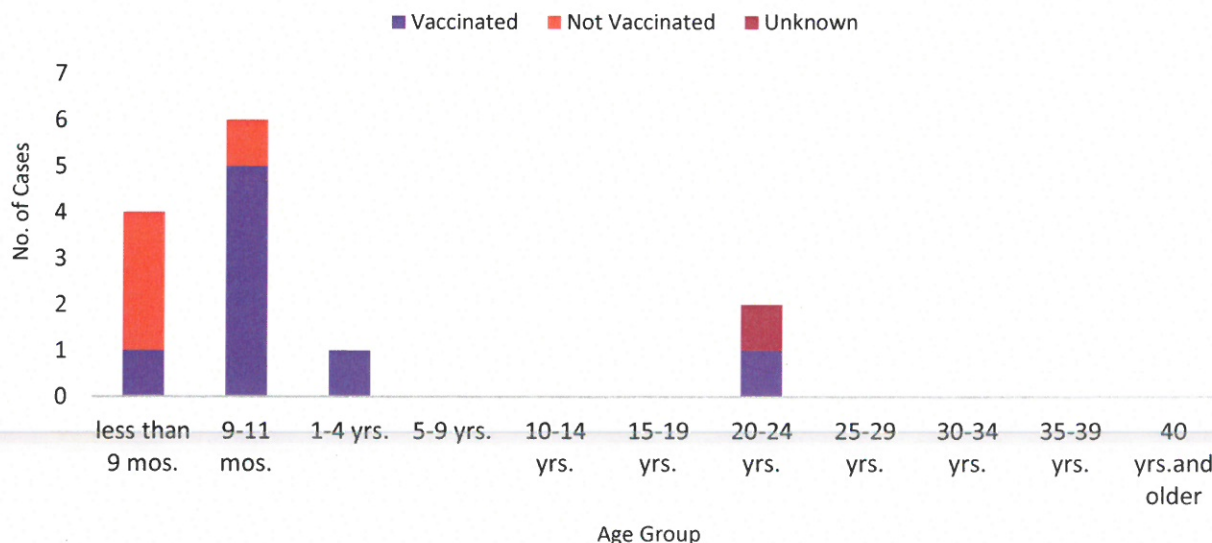
**FIGURE 6. CONFIRMED MEASLES CASES BY AGE GROUP AND SEX  
PHILIPPINES, JANUARY 1- MARCH 18, 2017 (n=13)**



### Immunization Status

Among the confirmed measles cases, 8 (61.54%) were vaccinated, 4 (30.77%) were not vaccinated and 1 (7.69%) had an unknown vaccination status (Figure 7).

**FIGURE 7. IMMUNIZATION STATUS OF CONFIRMED MEASLES CASES BY AGE GROUP  
PHILIPPINES, JANUARY 1- MARCH 18, 2017 (n=13)**







Morbidity Week 11: January 1 – March 18, 2017

Epidemiology Bureau  
Public Health Surveillance Division

**Annex A. Confirmed Measles and Rubella Cases by Barangay**

CONFIRMED MEASLES CASES PHILIPPINES, JANUARY 1 - MARCH 18, 2017 (n=13)				
REGION	PROVINCE	MUNCITY	BARANGAY	NO. OF CASES
01	PANGASINAN	DAGUPAN CITY	MAYOMBO	1
03	PAMPANGA	LUBAO	SANTA CRUZ	1
04A	CAVITE	DASMARIÑAS CITY	BUROL I	1
04A		TANZA	SANJA MAYOR	1
04A	RIZAL	ANTIPOLO CITY	SAN JOSE	1
09	ZAMBOANGA DEL SUR	ZAMBOANGA CITY	AYALA	1
09			TUMAGA	1
10	MISAMIS ORIENTAL	MANTICAO	UNSPECIFIED	1
10			POBLACION	1
11	DAVAO DEL NORTE	ISLAND GARDEN CITY OF SAMAL	SAN ISIDRO (BABAK)	1
NCR	METRO MANILA	CALOOCAN CITY	BAGONG BARRIO	1
NCR		MANILA CITY	UNSPECIFIED	1
NCR		QUEZON CITY	PROJECT 4	1
PHILIPPINES				13



Morbidity Week 11: January 1 – March 18, 2017

Epidemiology Bureau  
Public Health Surveillance Division

**CONFIRMED RUBELLA CASES**  
**PHILIPPINES, JANUARY 1 - MARCH 18, 2017 (n=112)**

REGION	PROVINCE	MUNCITY	BARANGAY	NO. OF CASES
01	ILOCOS SUR	SAN VICENTE	SAN SEBASTIAN	1
		VIGAN CITY	NAGSANGALAN	1
	LA UNION	ARINGAY	SANTA RITA EAST	1
		BANGAR	CADAPLI	1
		BAUANG	PAYOCPOC NORTE ESTE	1
		SAN FERNANDO CITY	BARANGAY I (POB.)	1
			LINGSAT	1
	PANGASINAN	DAGUPAN CITY	BONUAN BOQUIG	1
			LUCAO	1
			MANGIN	1
		MANAOAG	BABASIT	1
		MANGATAREM	MACARANG	1
		SANTA BARBARA	TULIAO	1
03	BATAAN	MARIVELES	CAMAYA	1
		ORION	GENERAL LIM (KAPUT)	1
	BULACAN	BALIUAG	SABANG	1
		MARILAO	CAMANSI PRENZA III	1
	PAMPANGA	MABALACAT CITY	AIRFORCE CITY	3
		SANTA ANA	SANTA MARIA	1
		SASMUAN	SAN PEDRO	1
	TARLAC	LA PAZ	DUMARAIS	1
	ZAMBALES	BOTOLAN	PORAC	1
		SANTA CRUZ	NAULO	1
04A	BATANGAS	BATANGAS CITY	BARANGAY 18 (POB.)	1
			BARANGAY 19	1
			CONCEPCION	1
			KUMINTANG ILAYA	1
			PALLOCAN KANLURAN	1
			PINAMUCAN IBABA	2
			SAN ISIDRO	1
			SAN MIGUEL	1
			SANTO DOMINGO	1
			TABANGAO DAO	1
			TINGA LABAK	1
		LIPA CITY	MUNTING PULO	1
		SAN JOSE	CALANSAYAN	1





Morbidity Week 11: January 1 – March 18, 2017

Epidemiology Bureau  
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**CONFIRMED RUBELLA CASES**  
**PHILIPPINES, JANUARY 1 - MARCH 18, 2017 (n=112)**

REGION	PROVINCE	MUNCITY	BARANGAY	NO. OF CASES
04A	CAVITE	BACOR CITY	MOLINO III	1
		DASMARIÑAS CITY	BUROL I	1
			H-2	1
			SALAWAG	1
			SAN ANTONIO DE PADUA I	1
			SAN FRANCISCO I	1
			SAN JUAN (SAN JUAN I)	1
			SAN LORENZO RUIZ II	1
			SAN LUIS II	1
			SAN NICOLAS I	1
			SAN NICOLAS IV	1
			SANTA LUCIA (SAN JUAN II)	1
			SANTA MARIA (BARANGAY 20)	1
			VICTORIA REYES	1
	IMUS CITY	TANZANG LUMA II	1	
		ANABU II	1	
	TANZA	BIWAS	1	
LAGUNA	SAN PEDRO	SAN VICENTE	1	
QUEZON	LOPEZ	UNSPECIFIED	1	
RIZAL	ANTIPOLO CITY	DELA PAZ	1	
	TAYTAY	SAN JUAN	1	
	TERESA	PRINZA	1	
05	CAMARINES NORTE	LABO	MALATAP	2
06	CAPIZ	TAPAZ	POBLACION	1
	ILOILO	PASSI CITY	MAN-IT	1
		SAN ENRIQUE	CAMIRI	1
	NEGROS OCCIDENTAL	ENRIQUE B. MAGALONA	POBLACION II (BARANGAY 2)	1
		VALLADOLID	DOLDOL	1
07	CEBU	CEBU CITY	PARI-AN	1
			PUNTA PRINCESA	1
		MANDAUE CITY	TABOK	1
08	NORTHERN SAMAR	SAN ANTONIO	DALUPIRIT	7
			SAN NICOLAS	1
	SAMAR	CATBALOGAN	MAULONG	1
09	ZAMBOANGA DEL SUR	ZAMBOANGA CITY	BALIWASAN	1
			TALON-TALON	1
10	MISAMIS OCCIDENTAL	OZAMIS CITY	MALAUANG	1
		TANGUB CITY	BARANGAY I - CITY HALL (POB.)	1
	MISAMIS ORIENTAL	CAGAYAN DE ORO CITY	PATAG	1





Morbidity Week 11: January 1 – March 18, 2017

Epidemiology Bureau  
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**CONFIRMED RUBELLA CASES**  
**PHILIPPINES, JANUARY 1 - MARCH 18, 2017 (n=112)**

REGION	PROVINCE	MUNCITY	BARANGAY	NO. OF CASES		
CAR	BENGUET	ATOK	ABIANG	1		
		BAGUIO CITY	CAMP 7	1		
			CAMP ALLEN	1		
			SANITARY CAMP, NORTH	1		
		LA TRINIDAD	PICO	1		
NCR	METRO MANILA	CALOOCAN CITY	UNSPECIFIED	1		
			BARANGAY 170	1		
		MAKATI CITY	PITOGO	1		
		MALABON CITY	TONSUYA	1		
		MANILA CITY	BARANGAY 399	1		
			BINONDO	1		
			BRGY. 33	1		
			OLD SITE BASECO	1		
			PACO	1		
			SAMPALOC	1		
			SANTA CRUZ	1		
		PARAÑAQUE CITY	DON GALO	1		
			SAN DIONISIO	1		
		PASAY CITY	BRGY. 145	1		
		QUEZON CITY	MARIANA	1		
			PROJECT 4	1		
		SAN JUAN CITY	ONSE	1		
			WEST CRAME	4		
		PHILIPPINES				112




Morbidity Week 11: January 1 – March 18, 2017

Epidemiology Bureau  
Public Health Surveillance Division


**Annex B. Definition of Terms**


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
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
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
Confirmed Measles cases	☞ Laboratory confirmed + Epidemiologically-linked measles cases
Epidemiologically-linked measles (or rubella) case	☞ A suspect measles case that has not been confirmed by 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.
Discarded non-measles/rubella	☞ A case that meets the clinical case definition for measles and tested negative for both measles and rubella testing.
Pending Classification	☞ Cases with blood specimen collected and pending laboratory results.
Alert threshold	☞ Refers to the level of occurrence of disease that serves as an early warning for epidemics. An increase in the number of cases above the threshold level should trigger an investigation, epidemic preparedness and implement appropriate prevention and control measures.
Epidemic threshold	☞ Refers to the level of occurrence of disease above which an urgent response is required. The threshold is specific to each disease and depends on the infectiousness, other determinants of transmission and local endemicity levels.
Cluster of cases	☞ 2 or more cases with temporal (occurring in a span of 4 weeks) and geographical association (within the same barangay)


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