



Classification of Suspect Measles-Rubella Cases

A total of 3,248 suspect measles-rubella cases were reported nationwide from January 1 to November 4, 2017. Of these, 2,166 (66.68%) were tested. Among the suspect cases, 238 (7.32%) were classified as **confirmed measles** and 452 (13.91%) cases were classified as **confirmed rubella** as shown in Table 1. Confirmed cases may be either laboratory confirmed or epidemiologically-linked cases. Measles cases are **250.00% higher** while rubella cases are **237.31% higher** than the previous year of the same reporting period. Case fatality rate of 2.10% (5 deaths) were reported among confirmed measles cases. No deaths were reported among confirmed rubella cases. (see Table 2)

TABLE 1. MEASLES AND RUBELLA CASES BY REGION, PHILIPPINES, JANUARY 1 – NOVEMBER 4, 2017 (N=3,248)

REGION	REPORTED	CONFIRMED CASES					MEASLES COMPATIBLE	NEGATIVE FOR BOTH MEASLES & RUBELLA (DISCARDED AS NON-MEASLES/RUBELLA)	NEGATIVE FOR MEASLES ONLY (DISCARDED AS NON-MEASLES)	PENDING
		LAB CONFIRMED MEASLES	EPI-LINKED CONFIRMED MEASLES	LAB CONFIRMED RUBELLA	EPI-LINKED CONFIRMED RUBELLA	POSITIVE FOR BOTH MEASLES & RUBELLA (CO-INFECTION)				
I	385	3	0	32	0	0	93	209	28	20
II	52	0	0	6	0	0	10	34	0	2
III	324	25	0	43	0	1	41	193	11	10
IVA	541	11	0	95	2	0	87	293	7	46
MIMAROPA	52	0	0	2	0	0	28	21	1	0
V	64	0	0	3	0	0	18	38	2	3
VI	279	0	0	95	7	1	15	149	3	9
VII	47	0	0	6	0	2	6	32	1	0
VIII	78	0	0	31	9	0	14	21	0	3
IX	324	110	18	5	0	2	95	33	9	52
X	129	4	0	6	0	0	72	42	0	5
XI	57	1	0	6	0	0	2	46	1	1
XII	73	1	0	3	0	0	3	63	0	3
ARMM	310	44	7	1	0	0	234	7	1	16
CAR	182	0	0	57	1	0	50	70	1	3
CRG	43	1	0	1	0	0	19	19	0	3
NCR	308	7	0	34	1	0	60	192	0	14
PHL	3,248	207	25	426	20	6	847	1,462	65	190

see Annex A & B for confirmed measles and rubella cases by barangay

FIGURE 1. GEOGRAPHICAL DISTRIBUTION OF CONFIRMED CASES*, PHILIPPINES, JANUARY 1 – NOVEMBER 4, 2017

REGION	MEASLES	RUBELLA
I	3	32
II	0	6
III	26	44
IVA	11	97
MIMAROPA	0	2
V	0	3
VI	1	103
VII	2	8
VIII	0	40
IX	130	7
X	4	6
XI	1	6
XII	1	3
ARMM	51	1
CAR	0	58
CRG	1	1
NCR	7	35

*lab confirmed and epi-linked confirmed cases

Legend:
1 dot = 1 case
● Measles
● Rubella

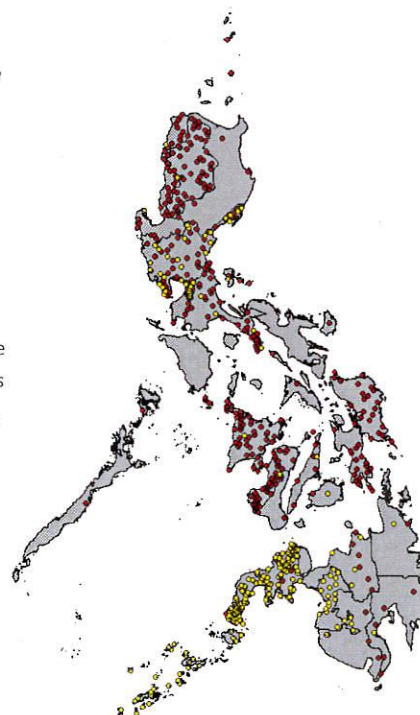




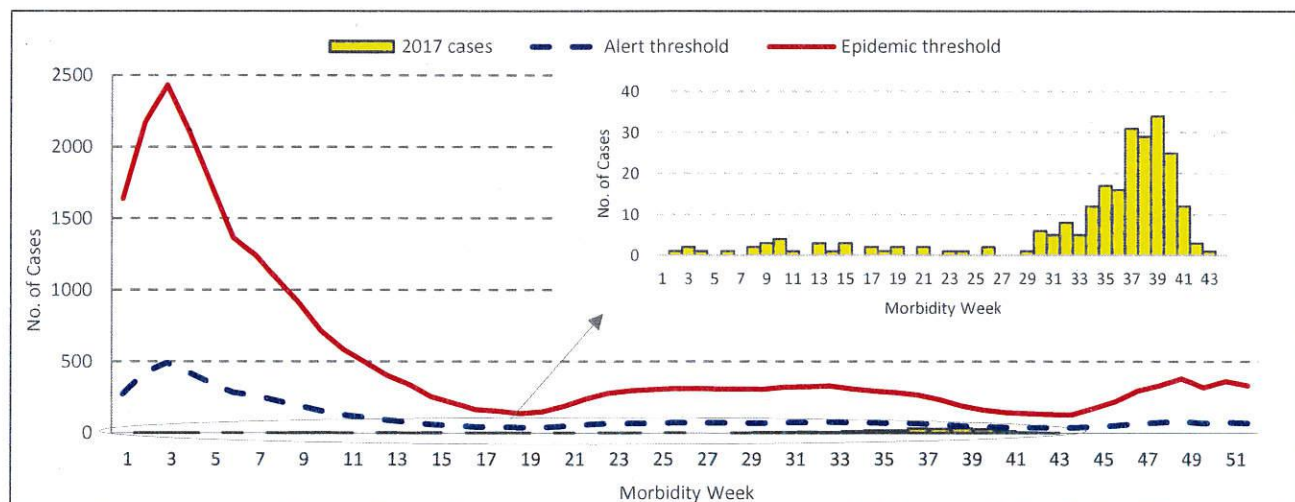
Figure 1 shows the distribution of cases among regions. Confirmed measles are highest in Mindanao specifically in Region IX with 130 (54.62%) cases and ARMM with 51 (21.43%) cases followed by Region III with 26 (10.92%) cases.

Meanwhile, confirmed rubella cases are highest in number in Region VI with 103 (22.79%) cases followed by Region IVA with 97 (21.46%) cases and CAR with 58 (12.83%) cases.

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

REGION	CONFIRMED MEASLES CASES					CONFIRMED RUBELLA CASES		
	2017	2016	% CHANGE	DEATHS	CFR (%)	2017	2016	% CHANGE
I	3	6	↓ -50.00	0	0.00	32	5	↑ 540.00
II	0	2	↓ -200.00	0	-	6	0	↑ 600.00
III	26	2	↑ 1200.00	2	7.69	44	6	↑ 633.33
IVA	11	11	→ 0.00	0	0.00	97	10	↑ 870.00
MIMAROPA	0	0	→ 0.00	0	-	2	2	→ 0.00
V	0	4	↓ -400.00	0	-	3	5	↓ -40.00
VI	1	4	↓ -75.00	0	0.00	103	54	↑ 90.74
VII	2	10	↓ -80.00	0	0.00	8	4	↑ 100.00
VIII	0	2	↓ -200.00	0	-	40	4	↑ 900.00
IX	130	11	↑ 1081.82	1	0.77	7	0	↑ 700.00
X	4	2	↑ 100.00	0	0.00	6	5	↑ 20.00
XI	1	0	↑ 100.00	0	0.00	6	5	↑ 20.00
XII	1	1	→ 0.00	0	0.00	3	2	↑ 50.00
ARMM	51	2	↑ 2450.00	1	1.96	1	0	↑ 100.00
CAR	0	3	↓ -300.00	0	-	58	8	↑ 625.00
CRG	1	2	↓ -50.00	0	0.00	1	0	↑ 100.00
NCR	7	6	↑ 16.67	1	14.29	35	24	↑ 45.83
PHL	238	68	↑ 250.00	5	2.10	452	134	↑ 237.31

FIGURE 2. CONFIRMED MEASLES ALERT AND EPIDEMIC THRESHOLDS, PHILIPPINES, JANUARY 1 – NOVEMBER 4, 2017 (n=238)



Number of confirmed measles cases began to increase in the month of August. Although the nationwide incidence rate is below the alert threshold, certain regions namely Region IX, ARMM and III already reached the alert and epidemic thresholds at particular weeks of the year ranging from August until October 2017. Up to this time, there is still active transmission of the

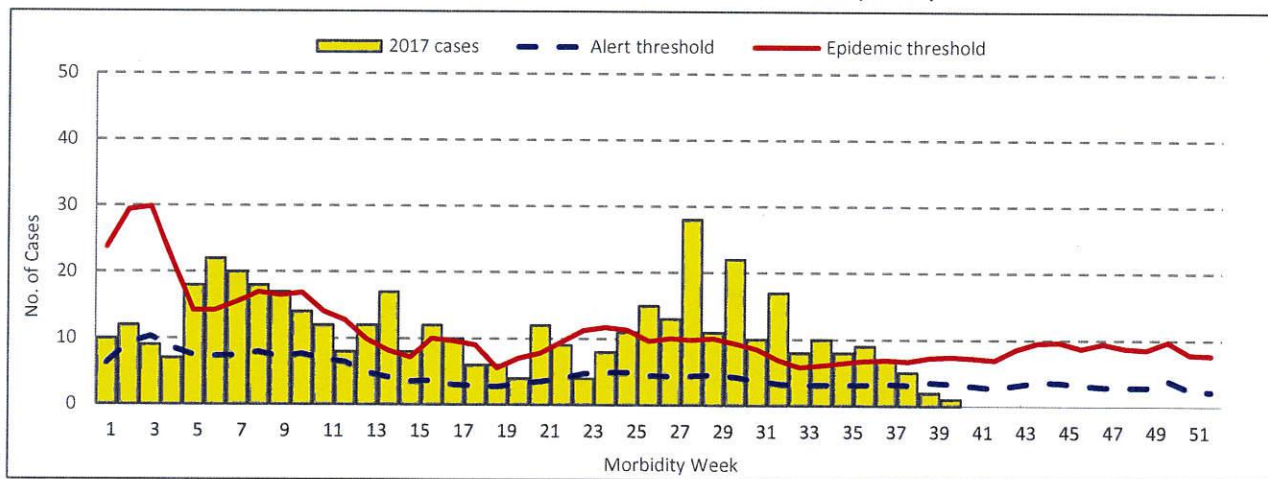
Case counts reported here do NOT represent the final number and are subject to change after inclusion of delayed reports and review of cases.



virus and a number of suspect cases awaiting for laboratory confirmation are continuously reported. Annualized measles incidence rate is 2.72 per 1,000,000 population exceeding the target incidence of <1 per 1,000,000.

Figure 3 as shown below reflects the confirmed rubella cases in relation to the rubella alert and epidemic thresholds. It can be noted that the weekly number of rubella cases have almost consistently exceeded the alert threshold from the start of the year until morbidity week 38. In various weeks, the epidemic threshold was reached. Annualized rubella incidence rate is 5.17 per 1,000,000 population, indicating a high incidence of rubella in the country.

FIGURE 3. CONFIRMED RUBELLA ALERT AND EPIDEMIC THRESHOLDS, PHILIPPINES, JANUARY 1 – NOVEMBER 4, 2017 (n=452)

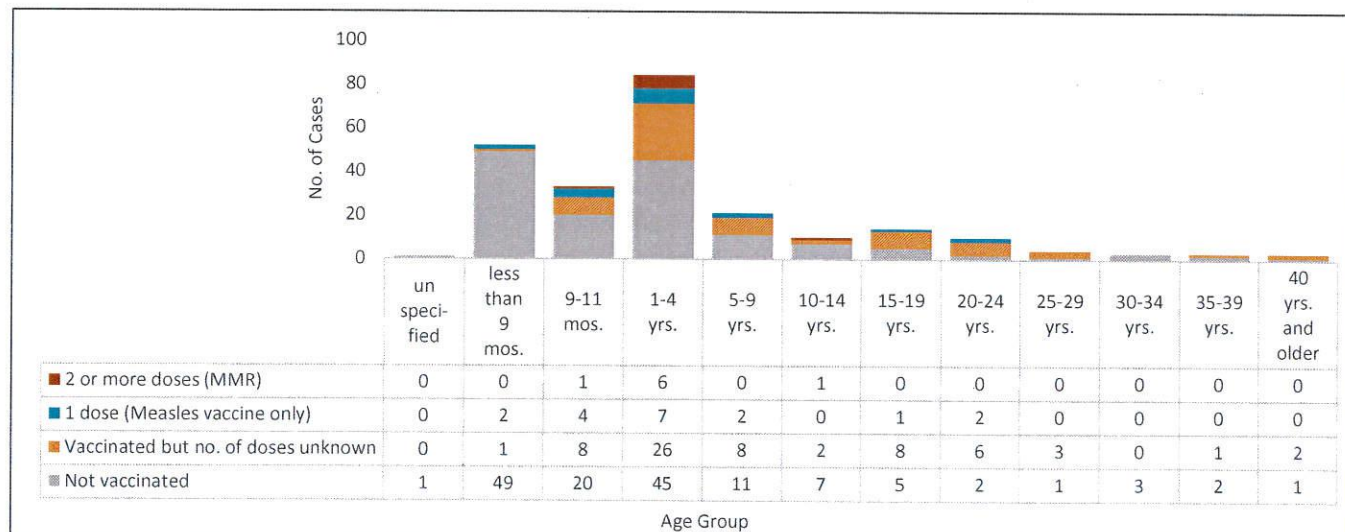


PCR Testing and Genotyping of Oropharyngeal or Nasopharyngeal Swabs (OPS/NPS)

There were 145 oropharyngeal/nasopharyngeal swabs submitted to the Research Institute for Tropical Medicine (RITM) and tested by PCR for the current year. Among these, 2 cases revealed presence of measles virus RNA with a genotype B3 result for 1 of the cases. Thirty cases have rubella virus RNA detected and 24 have 2B genotype results based on swab testing.

Profile of Cases: MEASLES

FIGURE 4. VACCINATION STATUS OF CONFIRMED MEASLES CASES BY AGE GROUP, PHILIPPINES, JANUARY 1 –NOVEMBER 4, 2017 (n=238)

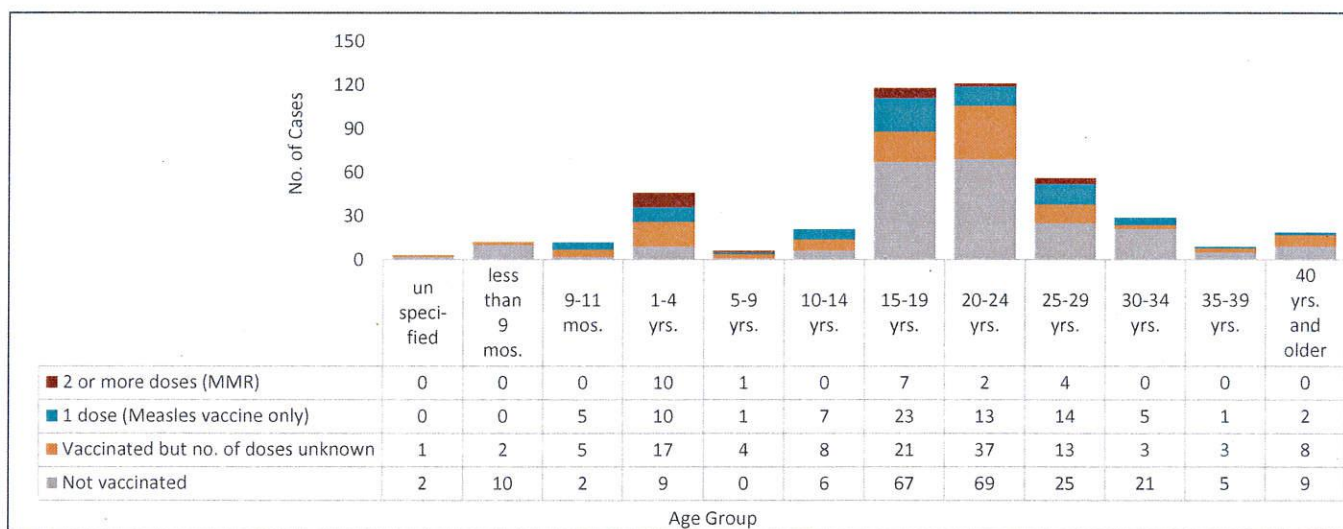




Among the confirmed measles cases, 133 (56%) cases were male. Most of the cases belong to the under five age groups. Eighty four (35.29%) of the confirmed measles cases belong to the 1-4 year old age group, 52 (21.85%) cases to the less than 9 month old age group and 33 (13.87%) cases to the 9-11 month old age group. One hundred forty seven (61.76%) of the cases were not vaccinated, 65 (27.31%) cases were vaccinated but with unknown number of doses, 18 (7.56%) cases received 1 dose of measles vaccine and 8 (3.36%) cases received 2 doses of measles-containing vaccine as shown in Figure 4.

Profile of Cases: RUBELLA

FIGURE 5. VACCINATION STATUS OF CONFIRMED RUBELLA CASES BY AGE GROUP, PHILIPPINES, JANUARY 1 – NOVEMBER 4, 2017 (n=452)



Of the confirmed rubella cases, 241 (53%) cases were female. One hundred twenty one (26.77%) of the confirmed rubella cases belong to the 20-24 year old age group followed by the 15-19 year old age group with 118 (26.11%) cases. It can be observed that most of the cases are among adults. Almost half (49.78%) of the cases were not vaccinated while only 24 (5.31%) received 2 or more doses inclusive of MMR vaccine as shown in Figure 5.

Among the female confirmed rubella cases, 7 (2.90%) were reported as pregnant. All pregnant cases are referred to the Maternal, Newborn and Child Health and Nutrition (MNCHN) program for monitoring of pregnancy and outcome of delivery. Exposure to rubella during pregnancy increases the risk of Congenital Rubella Syndrome (CRS) affecting the newborn.

Increasing Measles Cases

There is a significant increase of cases in Regions IX and ARMM. Confirmed measles cases from these regions were higher than the same reporting period last year: 1,081.82% and 2,450%, respectively. This prompted investigations, immunization activities and release of communications to concerned regions and offices for surveillance and response.

Actions Taken for Increasing Measles Cases:

The following actions were taken in some areas in response to the increasing cases:

1. Case investigation of reported suspect measles cases including specimen collection and transport, home visits and case interview and records review of the immunization coverage of affected areas;
2. Coordination between DOH Regional Offices and Local Government Units for the response activities;
3. Conduct of mop-up immunization activities in affected barangays;
4. Health education on the importance of immunization.



To prevent further spread of the disease in neighboring areas, the following activities were further implemented:

A. Immunization

1. The National Immunization Program (NIP) will issue memorandum to all regions emphasizing all local government units (provinces/cities/municipalities) to conduct a selective house-to-house immunization to administer 2 doses of measles-containing vaccine (MCV) to all children aged 9 months to 59 months old from November 6 to December 31, 2017.
2. Consolidated report of the catch-up immunization activities shall be submitted to NIP, Disease Prevention and Control Bureau.
3. Intensify routine immunization and implementation of "Reaching Every Purok" (REP) strategy to ensure all eligible infants shall be vaccinated with MCV following the recommended schedule.

B. Surveillance

1. Intensification of surveillance activities such as:
 - a. Case detection and timely reporting of additional suspect cases
 - b. Collection of serum and oropharyngeal/nasopharyngeal swabs from all suspect cases
 - c. Ensuring completeness of case investigation forms
 - d. Regular data analysis and feedback

C. Health Promotion

1. Intensify information campaign on the importance of measles vaccination through:
 - a. Upload of advisories and social media cards at the DOH Facebook
 - b. Re-airing of "Back to BAKuna" TV and Radio Ads
 - c. Development of additional TV Ads specifically on measles
 - d. Provision of advisories to affected regions

Measles Surveillance Performance Indicators

Table 3 presents the surveillance performance of regions based on the indicators for measles surveillance as part of the measles elimination strategies. Countrywide incidence rate of 2.72 per 1,000,000 population was reached, not achieving the target of <1 per 1,000,000 population. Regions III, IX and ARMM did not meet the regional targets which implies increased occurrence of measles in these regions, therefore raising the countrywide incidence rate beyond the target.

Surveillance performance on timeliness and adequacy of blood collection, timeliness and adequacy of case investigation, non-measles/non-rubella reporting and reducing measles compatible cases are all still below the target. Suspect measles reporting target of 2 per 100,000 population was achieved due to the increasing number of cases reported. These surveillance indicators gauge the capacity of the country in achieving the measles elimination goal. Development of strategies and towards a highly functional surveillance system is vital towards attainment of measles control and eventually, towards elimination. Strategies may include intensification of active surveillance across the country through enhanced case reporting, specimen collection and case investigation.

see Annex C for measles surveillance performance indicators dictionary



Epidemiology Bureau
Public Health Surveillance Division

January 1 – November 4, 2017

**TABLE 3. MEASLES SURVEILLANCE PERFORMANCE INDICATORS BY REGION,
PHILIPPINES, 2016 vs. 2017**

REGION	POPULATION 2017	ANNUALIZED MEASLES INCIDENCE RATE		TIMELINESS & ADEQUACY OF BLOOD		TIMELINESS & ADEQUACY OF CASE INVESTIGATION		ANNUALIZED SUSPECT MEASLES REPORTING RATE		ANNUALIZED NON- MEASLES/ NON- RUBELLA REPORTING		PERCENTAGE OF MEASLES COMPATIBLE	
		Target: <1/1,000,000 Pop.		Target: ≥80%		Target: ≥80%		Target: ≥2/100,000 Pop.		Target: ≥2/100,000 Pop.		Target: <10%	
		2016	2017	2016	2017	2016	2017	2016	2017	2016	2017	2016	2017
I	5,263,258	1.56	0.68	44	74	40	69	3.97	8.78	1.51	5.40	55	24
II	3,595,623	0.57	0.00	80	75	75	71	1.68	1.74	1.28	1.13	20	19
III	11,427,139	0.17	2.73	81	85	77	79	1.25	3.40	0.93	2.14	19	13
IVA	14,659,353	0.86	0.90	74	80	61	71	2.08	4.43	1.32	2.46	23	16
MIMAROPA	3,216,466	0.00	0.00	47	38	42	37	1.86	1.94	0.88	0.82	49	54
V	6,266,652	0.68	0.00	76	67	75	59	1.00	1.23	0.59	0.77	24	28
VI	7,919,887	0.52	0.15	95	92	90	73	3.91	4.23	2.93	2.30	5	5
VII	7,689,735	1.32	0.31	96	85	93	81	1.28	0.73	1.03	0.51	4	13
VIII	4,704,894	0.45	0.00	35	51	33	71	1.76	1.99	0.45	0.54	65	18
IX	3,896,152	3.15	40.04	53	63	47	44	1.91	9.98	0.84	1.29	40	29
X	4,857,342	0.41	0.99	43	43	38	38	6.00	3.19	2.47	1.04	56	56
XI	5,153,130	0.40	0.23	88	96	86	89	1.97	1.33	1.59	1.09	12	4
XII	4,780,211	0.21	0.25	84	96	81	92	1.53	1.83	1.22	1.58	16	4
ARMM	3,896,848	0.56	15.71	26	21	26	17	0.53	9.55	0.08	0.25	74	75
CAR	1,847,347	1.67	0.00	84	70	84	55	4.46	11.82	3.18	4.61	13	27
CRG	2,828,583	1.13	0.42	67	53	67	42	2.30	1.82	1.39	0.81	34	44
NCR	12,918,977	0.45	0.65	76	79	70	71	1.76	2.86	1.11	1.78	19	19
PHL	104,921,597	0.73	2.72	70	70	65	62	2.16	3.71	1.30	1.75	29	26
LEGEND:		<1	≥1	≥80%	<80%	≥80%	<80%	≥2/100,000 Pop.	<2/100,000 Pop.	≥2/100,000 Pop.	<2/100,000 Pop.	<10%	≤50%
													>50%

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ANNEX A. CONFIRMED MEASLES CASES BY BARANGAY

CONFIRMED MEASLES CASES PHILIPPINES, JANUARY 1 - NOVEMBER 4, 2017 (n=238)				
REGION	PROVINCE	MUNCITY	BARANGAY	NO. OF CONFIRMED CASES
01	LA UNION	AGOO	SANTA ANA	1
	PANGASINAN	DAGUPAN CITY	MAYOMBO	1
		INFANTA	PITA	1
03	BULACAN	GUIGUINTO	DAUNGAN	1
			POBLACION	1
		MARILAO	PRENZA I	1
	NUEVA ECJA	CABANATUAN CITY	P. CRISOSTOMO	1
	PAMPANGA	CITY OF SAN FERNANDO	XEVORA	1
		LUBAO	SANTA CRUZ	1
		MABALACAT CITY	TABUN	1
	TARLAC	CAPAS	VEVERA	1
			O'DONNELL	1
		LA PAZ	SAN ROQUE	1
			SAN ROQUE (POB.)	1
		PANIQUE	ABOGADO	1
		SAN JOSE	BURGOS	1
			CUT-CUT II	3
		TARLAC CITY	MATATALAIB	2
			SAN ISIDRO	2
			SAN JUAN DE MATA	2
			SAN LUIS	1
			SAN PASCUAL	1
			SAN RAFAEL	1
			UNSPECIFIED	1
04A	BATANGAS	BATANGAS CITY	SAN JOSE SICO	1
			SIRANG LUPA	1
		LIPA CITY	MARAUOY	1
		SAN JOSE	SANTA ANA	1
	CAVITE	BACOOR CITY	LIGAS III	1
		DASMARIÑAS CITY	EMMANUEL BERGADO I	1
			SANTA MARIA (BARANGAY 20)	1
		TANZA	SANJA MAYOR	1
	QUEZON	TAYABAS	BAGUIO	1
	RIZAL	ANTIPOLO CITY	SAN JOSE	1
06	AKLAN	TANGALAN	SAN LUIS	1
07	CEBU	CEBU CITY	BAYBAY	1
		CONSOLACION	QUIOT PARDO	1
09	BASILAN	ISABELA CITY	LAMAC	1
			UNSPECIFIED	1
			BALUNO	1
			BEGANG	4
			CABUNBATA	2
			DIKI	3
			KAPATAGAN	1
			KAPATAGAN GRANDE	1
			KAUMPUKNAH I	1
			KAUMPUKNAH III	2
			LA PIEDAD (POB.)	1
			LANOTE	1
			LATUAN BALUNO	1
			LUKKETON	1
			MAGCAWA	1
			MALAMAWI	1
			MARKETSITE (POB.)	1
			RIVERSIDE	1
			SAN RAFAEL	2
			SANTA CRUZ (POB.)	1
			SMALL KAPATAGAN	1
			SUMAGDANG	5
			SUNRISE VILLAGE (POB.)	1



CONFIRMED MEASLES CASES PHILIPPINES, JANUARY 1 - NOVEMBER 4, 2017 (n=238)				
REGION	PROVINCE	MUNCITY	BARANGAY	NO. OF CONFIRMED CASES
09	BASILAN	ISABELA CITY	TABIWAN	1
			TABUK	3
			TABUK (POB.)	1
			TAMPALAN	5
			TIMPUL	1
			UNGKAYA PUKAN	1
			UPPER MALIGUE	1
	ZAMBOANGA DEL NORTE	DIPOLOG CITY	ESTACA (POB.)	1
		SIOCON	TABAYO	1
	ZAMBOANGA DEL SUR	ZAMBOANGA CITY	UNSPECIFIED	5
			AYALA	1
			BALIWASAN	3
			BALUWASAN	1
			CALARIAN	1
			CALIANAN	1
			CANELAR MORET	1
			CAWIT	1
			GUIWAN	1
			GUIWAN PORCENTRO	1
			KALAMBUAN	1
			KASANYANGAN	1
			LANTAWAN	1
			LUNZURAN	1
			MAASIN	1
			MERCEDES	5
			PASOBOLONG	2
			PATALON	1
			PORCENTRO	1
			PUTIK	2
			QUINIPUT	1
			RECODO	3
			SAN JOSE	1
			SAN JOSE GUSU	3
			SAN ROQUE	4
			SANTA CATALINA	2
			SANTA MARIA	2
			SANTO NIÑO	1
			SINUNOC	2
			STA. BARBARA	1
			TALON-TALON	9
			TALUKSANGAY	2
			TETUAN	1
			TUGBUNGAN	2
			TUMAGA	9
			UPPER CABATANGAN	1
	ZAMBOANGA SIBUGAY	KABASALAN	UNSPECIFIED	1
			BUAYAN	1
		MALANGAS	GACBUSAN	2
			REBOCON	1
10	LANAO DEL NORTE	ILIGAN CITY	PINDAGANGAN	1
	MISAMIS OCCIDENTAL	OZAMIS CITY	BAGACAY	1
		TANGUB CITY	BALATACAN	1
	MISAMIS ORIENTAL	MANTICAO	POBLACION	1
11	DAVAO DEL NORTE	ISLAND GARDEN CITY OF SAMAL	SAN ISIDRO (BABAK)	1
12	SOUTH COTABATO	SURALLAH	TALAHIK	1



Epidemiology Bureau
 Public Health Surveillance Division

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CONFIRMED MEASLES CASES PHILIPPINES, JANUARY 1 - NOVEMBER 4, 2017 (n=238)					
REGION	PROVINCE	MUNCITY	BARANGAY	NO. OF CONFIRMED CASES	
ARMM	BASILAN	AL-BARKA	BOHE-PIANG	2	
			KAILIH	1	
			MANGALUT	1	
		LAMITAN CITY	BATO	2	
			COLONIA	1	
			LIMO-OK	1	
			MATATAG	1	
			ULAME	1	
			ATONG-ATONG	1	
		LANTAWAN	CANIBUNGAN	1	
			PANIONGAN	1	
			SANGBAY BIG	3	
			SAMAL VILLAGE	1	
		MALUSO	TOWN SITE	1	
			ETTUB-ETTUB	1	
		SUMISIP	MEBAK	1	
			TONGSENGAL	1	
		TIPO-TIPO	BOHE-PAHUH	1	
	UNGKAYA PUKAN		ULITAN	2	
	LANAO DEL SUR	MALABANG	CURAHAB	1	
		MARAWI CITY	UNSPECIFIED	1	
		PICONG	MALADEG	1	
			TUAL	1	
	MAGUINDANAO	DATU PIANG	UNSPECIFIED	1	
	SULU	HADJI PANGLIMA TAHIL	BANGAS (POB.)	1	
			KABUUKAN	2	
		INDANAN	BUANZA	1	
			LANGPAS	1	
			UNSPECIFIED	1	
		JOLO	ASTURIAS	5	
			BUS-BUS	1	
			GODINEZ	1	
			SAN RAYMUNDO	3	
			KANAWAY	1	
			PATIKUL	MALIGAY	1
		PANGLAYAHAN		1	
		TALIPAO	LOWER LAUS	1	
		TAWI-TAWI	BONGAO	LAMION	1
			SITANGKAI	UNSPECIFIED	1
CARAGA	SURIGAO DEL SUR		MADRID	PATONG-PATONG	1
NCR	METRO MANILA	CALOOCAN CITY	BAGONG BARRIO	1	
		MAKATI CITY	KASILAWAN	1	
		MANILA CITY	BARANGAY 649	1	
			TONDO	2	
		PARAÑAQUE CITY	BACLARAN	1	
		QUEZON CITY	OLD BILIBID	1	
PHILIPPINES				238	



ANNEX B. CONFIRMED RUBELLA CASES BY BARANGAY

CONFIRMED RUBELLA CASES PHILIPPINES, JANUARY 1 - NOVEMBER 4, 2017 (n=452)					
REGION	PROVINCE	MUNCITY	BARANGAY	NO. OF CONFIRMED CASES	
01	ILOCOS SUR	SAN ESTEBAN	POBLACION	1	
		SAN VICENTE	SAN SEBASTIAN	1	
		SANTA	BANAOANG	1	
		VIGAN CITY	BARANGAY VII	1	
			NAGSANGALAN	1	
	LA UNION	ARINGAY	SAN BENITO SUR	1	
			SANTA RITA EAST	1	
		BACNOTAN	BURAYOC	1	
		BANGAR	CADAPLI	1	
		BAUANG	BACCUIT SUR	1	
			PAYOCPOC NORTE ESTE	1	
			PAYOCPOC SUR	1	
		CABA	SAN JOSE	1	
		SAN FERNANDO CITY	BAGBAG	1	
			BARANGAY I (POB.)	1	
			CARLATAN	1	
			LINGSAT	1	
		SUDIPEN	SAN FRANCISCO SUR	1	
	PANGASINAN	BINMALEY	GAYAMAN	1	
		DAGUPAN CITY	BONUAN BOQUIG	1	
			BONUAN GUESET	1	
			COLDIT	1	
			LUCAO	1	
			MACARANG	1	
			MANGIN	1	
			NAGUILAYAN	1	
			POBLACION	1	
		MANAOAG	BABASIT	1	
		SANTA BARBARA	MANINGDING	1	
			TULIAO	1	
		URDANETA CITY	NANCAMALIRAN WEST	1	
		VILLASIS	UNZAD	1	
02	ISABELA	CAUAYAN CITY	SAN LUIS	1	
		ILAGAN	ALIBAGU	1	
		ROXAS	BANTUG (POB.)	1	
		SAN AGUSTIN	LAOAG	1	
		SANTIAGO CITY	CENTRO WEST	1	
03	AURORA	MARIA AURORA	SAGANA	1	
	BATAAN	BALANGA CITY	DECOLIAT	1	
			ALAS ASIN	1	
		MARIVELES	UPPER TUYO	1	
			ALASASIN	1	
			BALON-ANITO	2	
		CAMAYA	2		
		ORION	ARELLANO (POB.)	1	
	DAANG BAGO (POB.)		1		
	GENERAL LIM (KAPUT)		1		
	BULACAN	BALIUAG	CATACTE	1	
			SABANG	1	
		CALUMPIT	PALIMBANG	1	
		GUIGUINTO	PULONG GUBAT	1	
			SANTA CRUZ	1	
			STA. CRUZ	1	
		MALOLOS CITY	SAN VICENTE	1	
			SANTO ROSARIO	1	
			SANTO ROSARIO (POB.)	1	
			CAMANSI PRENZA III	1	
			MARILAO	LAMBAKIN	1
			SAN ILDEFONSO	MALIPAMPANG	1
			SANTA MARIA	SAN GABRIEL	1
SAN ROQUE	1				



CONFIRMED RUBELLA CASES PHILIPPINES, JANUARY 1 - NOVEMBER 4, 2017 (n=452)				
REGION	PROVINCE	MUNCITY	BARANGAY	NO. OF CONFIRMED CASES
03	NUEVA ECIIJA	CABANATUAN CITY	M. S. GARCIA	1
		SAN ANTONIO	PAPAYA	1
		SCIENCE CITY OF MUÑOZ	POBLACION NORTH	1
	PAMPANGA	CITY OF SAN FERNANDO	BULAON	1
		MABALACAT CITY	AIRFORCE CITY	3
		SANTA ANA	SANTA MARIA	1
		SASMUAN	SAN PEDRO	1
	TARLAC	LA PAZ	DUMARAIS	1
		MONCADA	POBLACION 4	1
		TARLAC CITY	CUT-CUT II	1
			SAN ISIDRO	1
	ZAMBALES	BOTOLAN	PORAC	1
		CANDELARIA	MALABON	1
		IBA	PALANGINAN	1
		OLONGAPO CITY	NEW CABALAN	1
		SANTA CRUZ	NAULO	1
04A	BATANGAS	BATANGAS CITY	SUBIC	1
			ILWAS (POB.)	1
			BANABA SOUTH	1
			BARANGAY 15 (POB.)	1
			BARANGAY 18 (POB.)	1
			BARANGAY 19	1
			BARANGAY 20 (POB.)	1
			CONCEPCION	2
			DUMANTAY	1
			KUMINTANG ILAYA	2
			MAHACOT KANLURAN	1
			PALLOCAN KANLURAN	5
			PALLOCAN SILANGAN	1
			PINAMUCAN IBABA	1
			SAN ISIDRO	1
			SAN MIGUEL	1
			SANTO DOMINGO	1
			SIMLONG	1
			TABANGAO DAO	1
			TALAHIB PANDAYAN	1
			TINGA LABAK	1
			TULO	1
			WAWA	1
		LIPA CITY	BALINTAWAK	1
			BULACNIN	2
			MATAAS NA LUPA	1
			MUNTING PULO	2
			PANGAO	1
			POBLACION BARANGAY 2	1
			QUEZON	2
			SAMPAGUITA	1
		ROSARIO	SAN SEBASTIAN (BALAGBAG)	1
			ITLUGAN	1
		SAN JOSE	BANAYBANAY II	2
			CALANSAYAN	1
			MAHABANG PARANG	1
			PINAGTUNG-ULAN	1
		SAN JUAN	TULAY IBAAN	1
			BUHAY NA SAPA	1
		SAN LUIS	SAN ANTONIO	1
		SAN PASCUAL	SANTO NIÑO	1
		TANAUAN CITY	PANTAY BATA	1
		TAYSAN	MABAYABAS	1
	CAVITE	BACOR CITY	MOLINO III	2
		DASMARIÑAS CITY	BUROL I	1
			H2	2
			MANGAS I	1
			MAYPAJO	1
			SALAWAG	2



Epidemiology Bureau
 Public Health Surveillance Division

January 1 – November 4, 2017

CONFIRMED RUBELLA CASES PHILIPPINES, JANUARY 1 - NOVEMBER 4, 2017 (n=452)				
REGION	PROVINCE	MUNCITY	BARANGAY	NO. OF CONFIRMED CASES
04A	CAVITE	DASMARIÑAS CITY	SAN ANTONIO DE PADUA I	1
			SAN DIONISIO (BARANGAY 1)	1
			SAN FRANCISCO I	1
			SAN ISIDRO LABRADOR 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 CRUZ I	1
			SANTA FE	1
			SANTA LUCIA (SAN JUAN II)	1
			SANTA MARIA (BARANGAY 20)	1
			VICTORIA REYES	2
		GENERAL TRIAS	SANTIAGO	1
		IMUS CITY	MALAGASANG II-G	1
			TANZANG LUMA II	1
		SILANG	BIGA I	1
			SAN VICENTE II	1
		TANZA	AMAYA III	1
			BIWAS	1
			CALIBUYO	1
		TERNATE	SAPANG I	1
	LAGUNA	NAGCARLAN	MARAVILLA	1
		SAN PABLO CITY	SAN GABRIEL	1
		SAN PEDRO	SAN VICENTE	1
	QUEZON	LOPEZ	UNSPECIFIED	1
		LUCENA CITY	IBABA IYAM	1
	RIZAL	ANTIPOLO CITY	DELA PAZ (POB.)	1
			MAMBUGAN	1
			MAYAMOT	1
			SAN ISIDRO (POB.)	1
			SAN ROQUE (POB.)	1
		BINANGONAN	MACAMOT	1
		TAYTAY	SAN JUAN	1
		TERESA	PRINZA	1
04B	PALAWAN	PUERTO PRINCESA CITY	SAN MIGUEL	1
	ROMBLON	SANTA FE	PANDAN	1
05	CAMARINES NORTE	LABO	MALATAP	2
	SORSOGON	SORSOGON CITY	SAN JUAN	1
06	AKLAN	ALTAVAS	DALIPDIP	1
		BALETE	CALIZO	1
			FELICIANO	1
		BANGA	POLOCATE	1
			TABA-AO	1
			TABAYON	1
		BATAN	UGSOD	1
			CAMALIGAN	1
			MAMBUQUIAO	1
		BURUANGA	HABANA	1
			MAYAPAY	1
			TAG-OSIP	17
		IBAJAY	MALOCO	1
		KALIBO (CAPITAL)	UNSPECIFIED	1
			AGBANAWAN	1
			BACHAW SUR	1
			CABAYUGAN	1
			DUMAGUIT	1
			JOYAO JOYAO	1
			LUPO	1
			OLD BUSWANG	1
			POBLACION	3
			POOK	1
			WALOOK	1

Case counts reported here do NOT represent the final number and are subject to change after inclusion of delayed reports and review of cases.



CONFIRMED RUBELLA CASES PHILIPPINES, JANUARY 1 - NOVEMBER 4, 2017 (n=452)				
REGION	PROVINCE	MUNCITY	BARANGAY	NO. OF CONFIRMED CASES
06	AKLAN	LEZO	BIGA-A	1
			IBAO	1
			POBLACION	1
		MADALAG	MEDINA	1
			CABATANGA	1
		MAKATO	EAST LIBANA	1
			LIBANG	1
			TINA	1
		MALAY	BALABAG	1
			MANOC-MANOC	3
		MALINAO	DANGCALAN	1
			KINALANGAY VIEJO	1
		NEW WASHINGTON	DUMAGUIT	1
			POBLACION	3
		NUMANCIA	PUIS	1
			JOYAO-JOYAO	1
		TANGALAN	AFGA	1
			BAYBAY	4
			DAPDAP	1
			DUMATAD	1
			JAWILI	1
			PUDIOT	1
			PUMOT	1
			TAGAS	1
			TAMALAGON	7
			TANDOG	1
			TONDOG	3
	ANTIQUE	PANDAN	DUMROG	1
		SAN JOSE	FUNDA	1
	CAPIZ	CUARTERO	ANGUB	1
			BITO-ON ILAWOD	1
			BUN-OD	1
			CARATANYA	1
			NAGBA	1
			POBLACION TAKAS	1
		JAMINDAN	FE	1
		MA-AYON	CABUNGAHAN	1
	GUIMARAS	TAPAZ	BAG-ONG BARRIO	1
			POBLACION	1
	ILOILO	BUENAVISTA	SAWANG	1
			NORTH FUNDIDOR	1
		ILOILO CITY	PAVIA	1
		PASSI CITY	MAN-IT	1
	NEGROS OCCIDENTAL	SAN ENRIQUE	CAMIRI	1
		ENRIQUE B. MAGALONA	POBLACION II (BARANGAY 2)	1
07	CEBU	VALLADOLID	DOLDOL	1
			INAYAWAN	1
			PUNTA PRINCESA	2
		CEBU CITY	QUIOT PARDO	1
			LUPA	1
			LAMAC	1
		MANDAUE CITY	TABOK	1
	NEGROS ORIENTAL	DUMAGUETE CITY	POBLACION NO. 8 (BARANGAY 8)	1
08	BILIRAN	KAWAYAN	POBLACION	1
			DALUPIRIT	18
	NORTHERN SAMAR	SAN ANTONIO	MANRAYA	9
			PILAR	5
			SAN NICOLAS	4
			VINISITAHAN	2
	SAMAR	CATBALOGAN	MAULONG	1



Epidemiology Bureau
 Public Health Surveillance Division

January 1 – November 4, 2017

CONFIRMED RUBELLA CASES PHILIPPINES, JANUARY 1 - NOVEMBER 4, 2017 (n=452)				
REGION	PROVINCE	MUNCITY	BARANGAY	NO. OF CONFIRMED CASES
09	BASILAN	ISABELA CITY	LANOTE	1
	ZAMBOANGA DEL NORTE	DAPITAN CITY	SAN PEDRO	1
		DIPOLOG CITY	MIPUTAK (POB.)	1
	ZAMBOANGA DEL SUR	ZAMBOANGA CITY	BALIWASAN	1
			TALON-TALON	1
	ZAMBOANGA SIBUGAY	IPIIL	TUGBUNGAN	1
10	LANAO DEL NORTE	ILIGAN CITY	TAWAY	1
	MISAMIS OCCIDENTAL	ILIGAN CITY	DATU SABER	1
		OZAMIS CITY	MALAUANG	1
	MISAMIS ORIENTAL	CAGAYAN DE ORO CITY	TANGUB CITY	1
			BARANGAY VII - UPPER POLAO (POB.)	1
			CARMEN	1
11	COMPOSTELA VALLEY	MANTICAO	PATAG	1
	DAVAO DEL NORTE	MARAGUSAN	CABALANTIAN	1
		KAPALONG	MARAGUSAN (POB.)	1
	DAVAO DEL SUR	DAVAO CITY	GUPITAN	1
		TAGUM CITY	TIBAL-OG (POB.)	1
		MALALAG	BAJADA	2
12	SOUTH COTABATO	GENERAL SANTOS CITY	POBLACION	1
		SURALLAH	FATIMA	1
	SULTAN KUDARAT	BAGUMBAYAN	RIZAL POBLACION	1
	LANAO DEL SUR	MARAWI CITY	SIRAPINANG	1
ARMM	ABRA	BANGUED	MARINAUT	1
CAR	APAYAO	PUDTOL	PATUCANNAY	1
	BENGUET	ATOK	SWAN	1
			ABIANG	1
			A. BONIFACIO-CAGUIOA-RIMANDO (ABCR)	2
			AMBIONG	3
			AURORA HILL	4
			BAKAKENG CENTRAL	1
			BROOKESIDE	1
			CABINET HILL-TEACHER'S CAMP	1
			CAMP 7	1
			CAMP ALLEN	1
			CENTRAL FAIRVIEW	1
			CITY CAMP CENTRAL	1
			ENGINEER'S HILL	1
			HAPPY HOLLOW	1
			HOLY GHOST EXTENSION	1
			HOLY GHOST PROPER	1
			HONEYMOON (HONEYMOON-HOLY GHOST)	4
			IRISAN	1
			NAVY BASE ST. JOSEPH	1
			NEW LUCBAN	2
			PACDAL	1
			PADRE BURGOS	1
			POLIWES	2
			QUEZON HILL PROPER	1
			RIMANDO ROAD	1
			SAINT JOSEPH VILLAGE	1
			SALUD MITRA	1
			SAN CARLOS HEIGHTS	1
			SAN LUIS VILLAGE	1
			SANITARY CAMP, NORTH	1
			SANTA ESCOLASTICA	1
			SANTO ROSARIO	1
			SANTO TOMAS PROPER	2
			UPPER QM	1
			UPPER WEST QUIRINO HILL	1



CONFIRMED RUBELLA CASES PHILIPPINES, JANUARY 1 - NOVEMBER 4, 2017 (n=452)				
REGION	PROVINCE	MUNCITY	BARANGAY	NO. OF CONFIRMED CASES
CAR	BENGUET	BOKOD	BILA	1
		ITOGON	AMPUCAO	1
			LOACAN	1
		LA TRINIDAD	AMBIONG	2
			BETAG	1
			LONGLONG PUGUIS	1
			LUBAS	1
			PICO	1
		TUBA	POBLACION	1
CARAGA	AGUSAN DEL SUR	ESPERANZA	DAPITAN	1
NCR	METRO MANILA	UNSPECIFIED	UNSPECIFIED	1
		CALOOCAN CITY	BAGBAGUIN	1
			BARANGAY 170	1
			BARANGAY 179	1
			TALON SINGKO	1
		MAKATI CITY	PITOGO	1
		MALABON CITY	TONSUYA	1
		MANILA CITY	BARANGAY 399	1
			BARRIO BANANA	1
			BINONDO	1
			BRGY. 33	1
			HABITAT BASECO	1
			OLD SITE BASECO	1
			PACO	1
			SAMPALOC	1
			SANTA CRUZ	2
			PARAÑAQUE CITY	DON GALO
		SAN DIONISIO		1
		TAMBO		1
		PASAY CITY	BRGY. 145	1
		QUEZON CITY	CENTRAL	1
			COMMONWEALTH	1
			CUBAO	1
			MARIANA	1
			PAYATAS	1
			PROJECT 4	2
			SAN JUAN	WEST CRAME
		SAN JUAN CITY	ONSE	2
			WEST CRAME	3
		VALENZUELA CITY	LAWANG BATO	1
PHILIPPINES				452



ANNEX C. MEASLES SURVEILLANCE PERFORMANCE INDICATORS

- **Measles incidence rate:** target: $<1/1,000,000$ of the total population. It measures the progress of a country towards measles elimination. High incidence rate indicates persistence of measles transmission in some areas.
- **Timeliness and adequacy of blood collection:** target: $\geq 80\%$ adequate specimen collected within 28 days from rash onset. This will facilitate the specificity (ability to determine measles virus as the cause of illness) of reported measles cases. With adequate specimen collection, there will be an access to identify the circulating measles virus in the community.
- **Timeliness and adequacy of investigation:** target: $\geq 80\%$ adequate investigation within 48 hours of notification, with collection of all 10 core variables. This provides venue to prevent further transmission of measles cases in the community, furthermore, provides immediate response to prevent potential outbreaks.
- **Suspect Measles Reporting Rate:** target: ≥ 2 per 100,000 of the total population. It measures the ability to detect suspect measles cases. Reporting an adequate number of suspected cases provides confidence that the system is sensitive to detect measles cases.
- **Non-Measles Reporting Rate:** target: ≥ 2 per 100,000 of the total population. If non-measles reporting rate is equal or proportion to the number of suspect measles cases in all regions, it gives us higher chance in attaining our goal of measles elimination. However, symptoms similar to that of measles may be attributed to another organism causing the illness.

ANNEX D. DEFINITION OF TERMS

Laboratory confirmed case	A suspect case with a positive laboratory test result for measles-specific/rubella-specific IgM antibodies or other approved laboratory test method
Epidemiologically-linked case	A suspect case that has not been confirmed by laboratory but that is geographically AND temporally related to a laboratory-confirmed case or (in the event of an outbreak) to another epidemiologically confirmed measles case
Co-infection	A suspect case with a positive laboratory test result for both measles-specific and rubella-specific IgM antibodies or other approved laboratory test method
Confirmed cases	Laboratory confirmed + Epidemiologically-linked cases
Measles compatible case	A case that meets the suspect case definition 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
Discarded non-measles/rubella	A case that meets the clinical case definition and tested negative for measles/rubella testing
Pending classification	Cases with blood specimen collected but with pending transport or laboratory results
Alert threshold	Refers to the level of occurrence of disease that serves as an early warning for epidemics
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)