



## Vaccine Preventable Disease (VPD) Surveillance

The goal of VPD surveillance is to improve the capacity of the health system to prevent and control through timely detection and appropriate response to vaccine preventable diseases with high level of morbidity, disability and mortality. This report provides data from the period of January 1 to March 30, 2019 or Morbidity Weeks 1 -13 (Table 1).


1). Table 1. Summary of Reported Vaccine Preventable Diseases, Philippines, January 1 – March 30, 2019

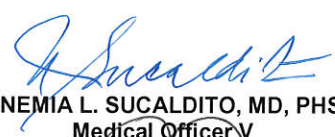
Vaccine Preventable Diseases	Total No of Cases	Confirmed Cases		
		Cases	Deaths	CFR %
Measles	27,108	-	-	-
Rubella		118	0	-
Diphtheria	42	6	3	50
Pertussis	35	5	1	20
Neonatal Tetanus	14	14	7	50
Polio (AFP Surveillance)	341	-	-	-

### PIDSR Case Definition for Vaccine Preventable Diseases


MEASLES	
Reported Measles Case (Suspect measles case)	Any person with fever and maculopapular (non-vesicular) rash and either cough, coryza (runny nose), or conjunctivitis (red eyes)
Measles compatible case (Clinical Measles)	A suspect case for which - no adequate blood specimen was taken, OR - is not an epidemiological link to a confirmed case of measles or rubella, OR - laboratory confirmation is still pending
Confirmed measles case	A suspect with positive laboratory for measles or epidemiologically linked cases
Epidemiologically Linked (Epi-linked)	A suspect case that has not been confirmed by laboratory but has close contact and temporally related to a laboratory confirmed case or to another epi-linked case during times of epidemic
Laboratory confirmed rubella	A suspect case with a positive laboratory test result for rubella-specific IgM antibodies or other approved laboratory test method
Discarded non-measles/rubella	A suspect case that meets the clinical case definition for measles and tested negative for both measles and rubella testing
NEONATAL TETANUS	
Clinically Confirmed Neonatal Tetanus	<ul style="list-style-type: none"> <li>Any neonate (<math>\leq 28</math> 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) and spasms (jerking of the muscles), which may include trismus, clenched fists or feet, continuously pursed lips, and/or curved back (opisthotonus); OR</li> <li>A neonate between 3 to 28 days of life, diagnosed as a case of tetanus by a physician.</li> </ul>
DIPHTHERIA	
Probable case	A person with an illness of the upper respiratory tract characterized by laryngitis or pharyngitis or tonsillitis, and adherent membranes on tonsils, pharynx and/or nose.
Confirmed case	A probable case that is laboratory confirmed or linked epidemiologically to a laboratory-confirmed case.
<i>Note: Persons with positive Corynebacterium diphtheriae cultures who do not meet the clinical description (i.e. asymptomatic carriers) should not be reported as probable or confirmed diphtheria cases.</i>	
PERTUSSIS	
Clinical Case	A person with a cough lasting at least 2 weeks with at least one of the following: - paroxysms (i.e. fits) of coughing - inspiratory "whooping" - post-tussive vomiting (i.e. vomiting immediately after coughing) - without other apparent cause
Clinically-confirmed case	A case that meets the clinical case definition but is not laboratory confirmed.
Probable case	Meets the clinical case definition, is not laboratory confirmed, and is not epidemiologically linked to a laboratory-confirmed case
Laboratory-confirmed case	<ul style="list-style-type: none"> <li>A case of acute cough illness of any duration with a positive culture for B. pertussis; OR</li> <li>A case that meets the clinical case definition and is confirmed by PCR; OR</li> <li>A case that meets the clinical definition and is epidemiologically linked directly to a case confirmed by either culture or PCR.</li> </ul>
ACUTE FLACCID PARALYSIS	
Reported AFP Case (suspect AFP case)	Any child less than 15 years of age who developed an acute onset of floppy paralysis OR A person of any age in whom poliomyelitis is suspected by the physician AFP "hotcase" An AFP case with no or less than 3 OPV dose and had FEVER at onset of paralysis


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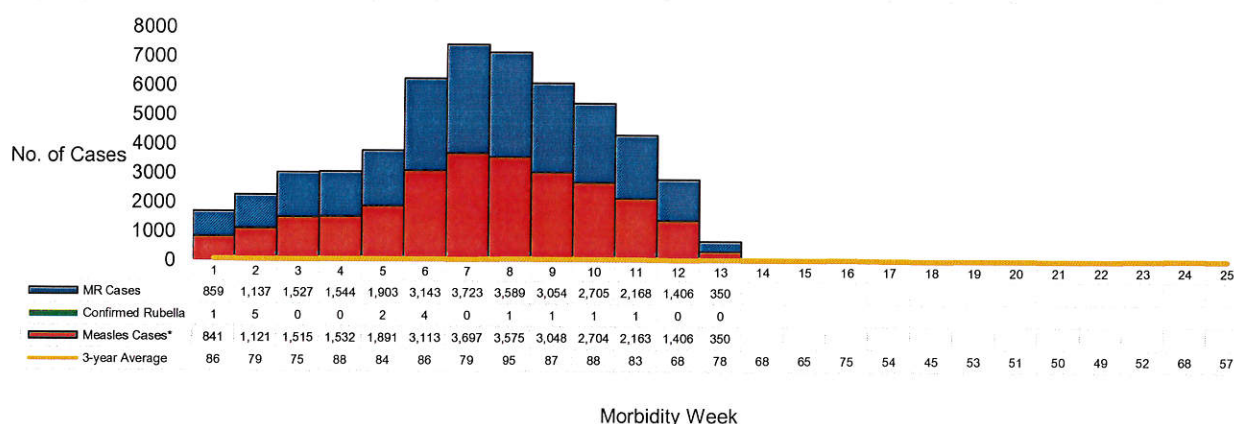
## I. MEASLES-RUBELLA

### Suspect Cases

#### Trend in the Philippines

A total of 27,108 suspect measles-rubella cases were reported from January 1 to March 30, 2019. The distribution of reported cases for 2019 compared to the 3-year average of cases from 2015-2017 is shown below (Figure 1).

Figure 1. Reported Measles-Rubella Cases by Case Classification and Morbidity Week, Philippines, January 1 to March 30, 2019 (N=27,108)



\*Measles cases=laboratory-confirmed measles, epidemiologically-linked confirmed measles, measles compatible, and pending

#### Geographic Distribution

From January 1 to March 30, 2019 or morbidity weeks 1 to 13, cases are 353% higher than the number of cases reported during the same time period last year (5,984). Most of the reported cases were from the following regions: NCR (5,598, 21%), IVA (5,299, 20%), Region III (4,313 or 16%), Region VI (1,628 or 6%) and Region X (1,323 or 5%) (Table 1). Majority of regions showed increase in the number of reported measles cases compared to 2018 except for Regions IX, XI, XII and ARMM.

Table 1. Reported Measles-Rubella Cases by Region, Philippines, January 1 to March 30, 2019 (N=27,108) vs. January 1 to March 30, 2018

Region	2019		2018		% Change
	Cases	Deaths	Cases	Deaths	
<b>PHL</b>	<b>27,108</b>	<b>383</b>	<b>5,984</b>	<b>52</b>	<b>↑ 353</b>
<b>I</b>	<b>1,185</b>	<b>12</b>	<b>108</b>	<b>0</b>	<b>↑ 997</b>
<b>II</b>	<b>398</b>	<b>2</b>	<b>20</b>	<b>0</b>	<b>↑ 1,890</b>
<b>III</b>	<b>4,313</b>	<b>63</b>	<b>161</b>	<b>3</b>	<b>↑ 2,579</b>
<b>IVA</b>	<b>5,299</b>	<b>104</b>	<b>167</b>	<b>2</b>	<b>↑ 3,073</b>
<b>MIMAROPA</b>	<b>1,128</b>	<b>9</b>	<b>19</b>	<b>0</b>	<b>↑ 5,837</b>
<b>V</b>	<b>783</b>	<b>7</b>	<b>17</b>	<b>0</b>	<b>↑ 4,506</b>
<b>VI</b>	<b>1,628</b>	<b>6</b>	<b>96</b>	<b>0</b>	<b>↑ 1,596</b>
<b>VII</b>	<b>1,287</b>	<b>11</b>	<b>136</b>	<b>1</b>	<b>↑ 846</b>
<b>VIII</b>	<b>1,100</b>	<b>25</b>	<b>10</b>	<b>0</b>	<b>↑ 10,900</b>
<b>IX</b>	<b>334</b>	<b>1</b>	<b>848</b>	<b>5</b>	<b>↓ 61</b>
<b>X</b>	<b>1,323</b>	<b>10</b>	<b>507</b>	<b>1</b>	<b>↑ 161</b>
<b>XI</b>	<b>540</b>	<b>10</b>	<b>933</b>	<b>12</b>	<b>↓ 42</b>
<b>XII</b>	<b>543</b>	<b>4</b>	<b>565</b>	<b>5</b>	<b>↓ 4</b>
<b>ARMM</b>	<b>480</b>	<b>6</b>	<b>1,861</b>	<b>16</b>	<b>↓ 74</b>
<b>CAR</b>	<b>466</b>	<b>1</b>	<b>27</b>	<b>0</b>	<b>↑ 1,626</b>
<b>CARAGA</b>	<b>703</b>	<b>7</b>	<b>72</b>	<b>1</b>	<b>↑ 876</b>
<b>NCR</b>	<b>5,598</b>	<b>105</b>	<b>437</b>	<b>6</b>	<b>↑ 1,181</b>

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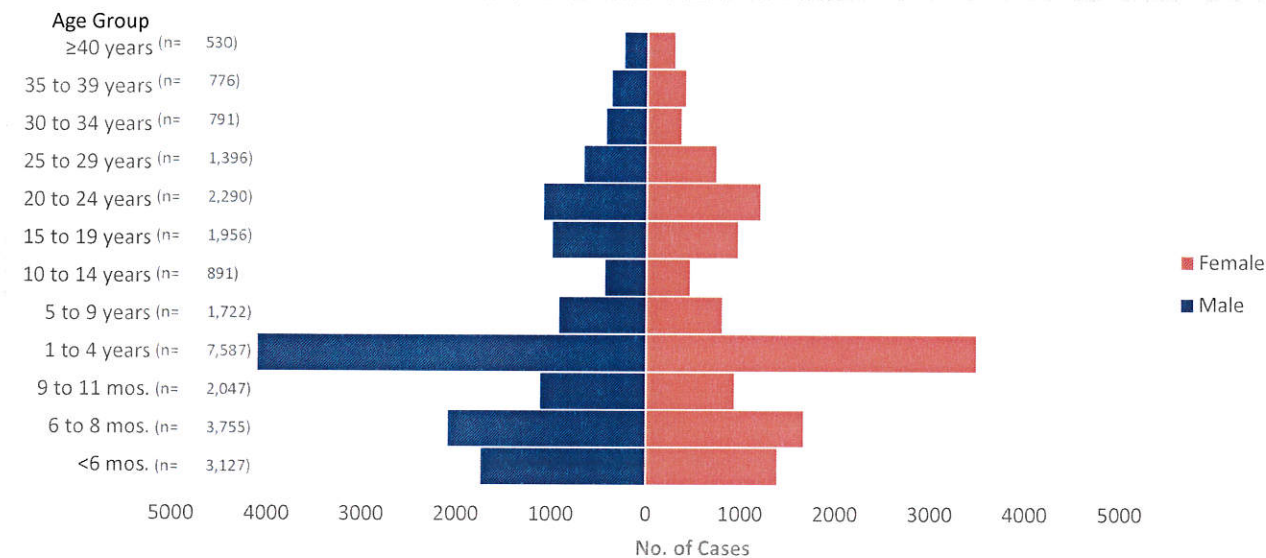
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**Profile of Reported Cases**

Majority (14,315 or 53%) of the reported cases were male. Ages of cases ranged from **less than 1 month to 88 years old** (median age of 3 years). Age groups with the most number of cases were: 1-4 years old (7,587 or 28%), 6 to 8 months old (3,755 or 14%) and less than 6 months old (3,127 or 12%) (Figure 2).

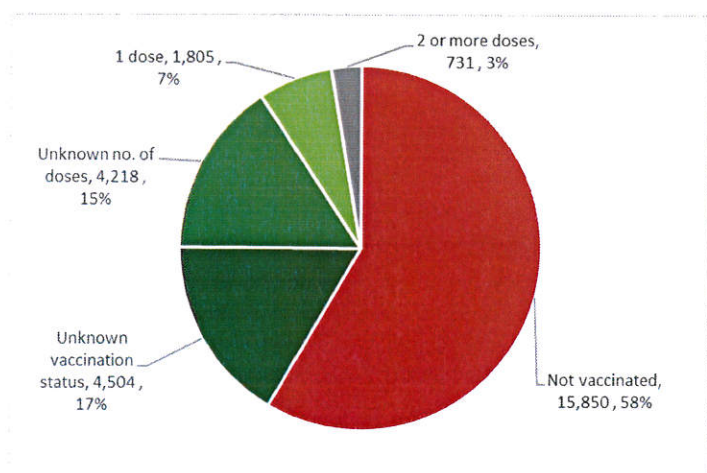
**Figure 2. Reported Measles-Rubella Cases by Age Group and Sex, Philippines, January 1 to March 30, 2019 (N=27,108)\***



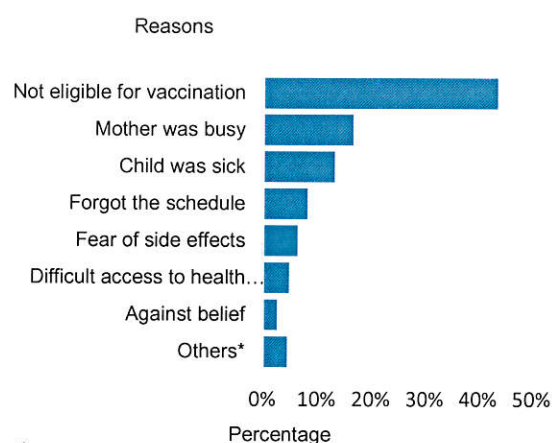
\*240 cases with unspecified age

Majority (15,850 or 58%) of the cases were not vaccinated (Figure 3). Top reasons for non-vaccination of measles-containing vaccine were: not eligible for vaccination (44%), mother was busy (17%), and child was sick (13%) (Figure 4).

**Figure 3. Vaccination Status of Reported Measles-Rubella Cases, Philippines, January 1 to March 30, 2019 (N=27,108)**



**Figure 4. Reasons for Non-vaccination of Measles Vaccine\*, Philippines, January 1 to March 30, 2019**



\*with data available

\*other reasons: moves residence, lack of knowledge, history of travel, medical contraindication, parents refused, child was abandoned, war conflict, unavailable during vaccination, lost vaccination card and laziness

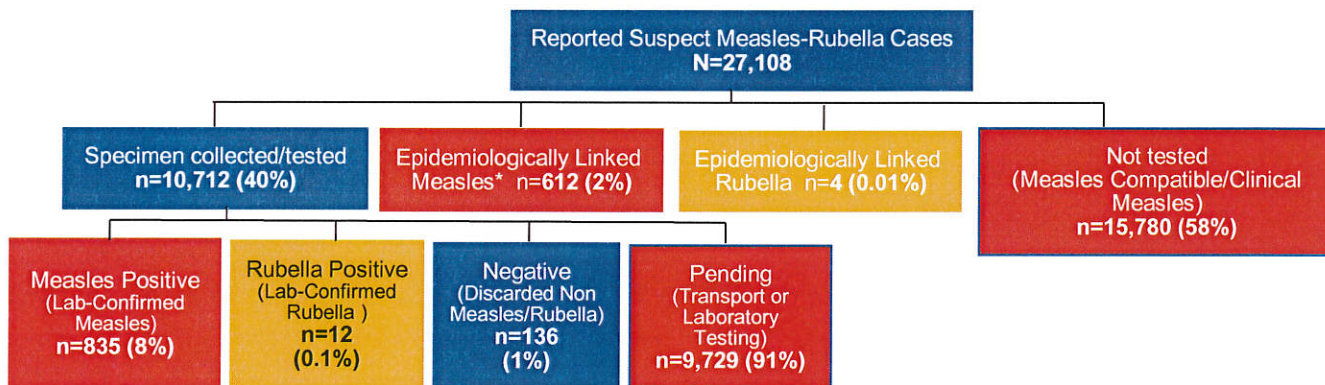




### Case Classification

Among the 27,108 reported cases, a total of 10,712 (40%) cases had specimens collected/tested for measles/rubella IgM and/or PCR. Among the tested cases, 835 (8%) were positive for measles and 12 (0.1%) were positive for rubella. Two hundred thirty (612, 2%) cases were epidemiologically-linked to laboratory confirmed cases, hence also classified as confirmed measles cases (Figure 5).

**Figure 5. Reported Measles-Rubella Cases by Case Classification, Philippines, January 1 to March 30, 2019 (N=27,108)**



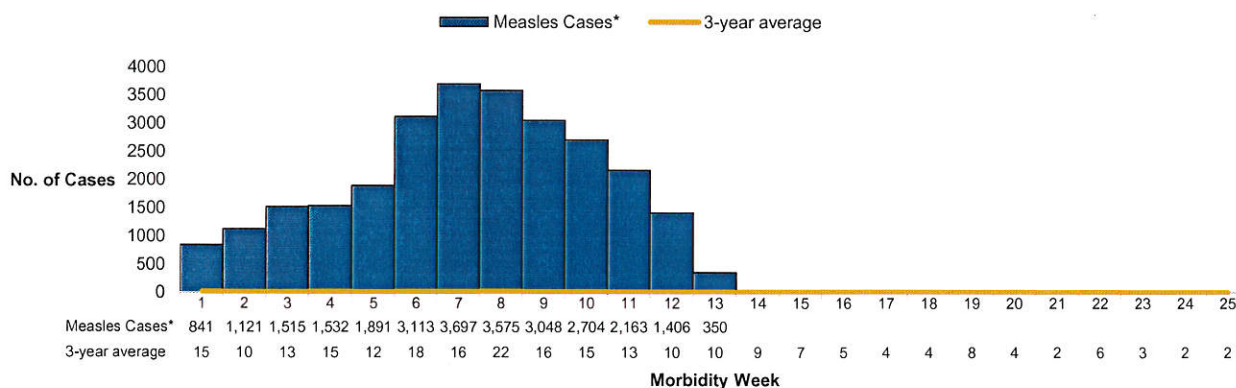
Measles cases=laboratory-confirmed measles, epidemiologically-linked confirmed measles, measles compatible and pending (n=26,956)

### Measles Cases

#### Trend in the Philippines

There were 26,956 measles cases with 381 death (CFR=1.4%). The distribution of measles cases for 2019 compared to the 3-year average of cases from 2015-2017 is shown in Figure 6.

**Figure 6. Measles Cases by Morbidity Week, Philippines, January 1 to March 30, 2019 (n=26,956)**



\*Measles cases=laboratory-confirmed measles, epidemiologically-linked confirmed measles, measles compatible and pending (n=26,956)





### Geographic Distribution

Most of the measles cases were from the following regions: NCR (5,586 or 21%), Region IVA (5,281 or 20%), Region III (4,287 or 16%), Region VI (1,607 or 6%) and Region X (1,315 or 5%). Measles cases in 2019 increased by 381% compared to the same period in 2018 (Table 2). Majority of regions showed increase in the number of reported measles cases compared to 2018 except for Regions IX, XI, and ARMM.

Top 5 provinces with measles cases include: Rizal (2,639 or 10%), Bulacan (1,335 or 5%), Pampanga (1,045 or 4%), Pangasinan (926 or 3%), and Cebu (847 or 3%).

Top 5 municipalities with measles cases include: Quezon City (1,616 or 6%), Manila (1,032 or 4%), Antipolo City (976 or 4%), Caloocan City (613 or 2%) and Biñan (386 or 1%).

Table 2. Measles Cases by Region,

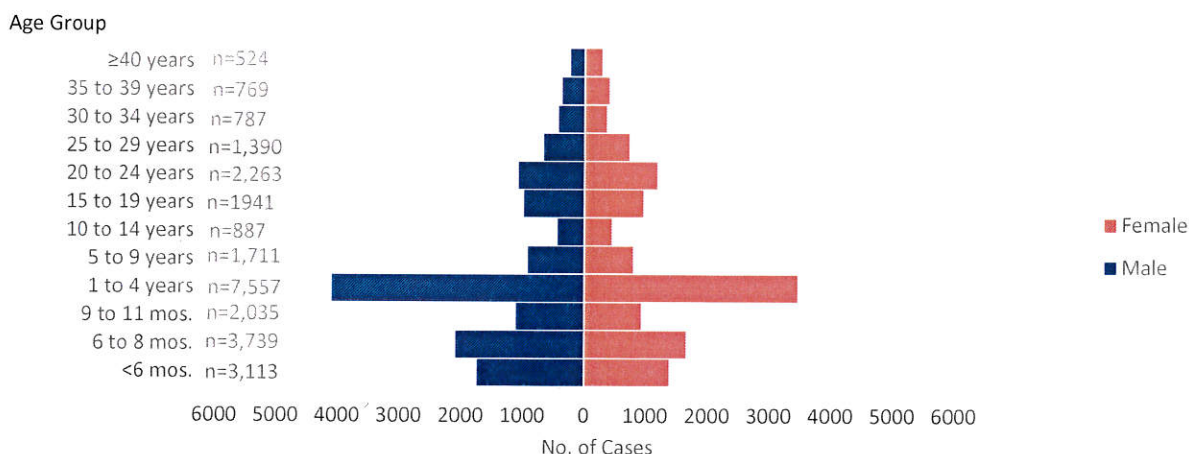
Philippines, January 1 to March 30, 2019 (n=26,956) vs. January 1 to March 30, 2018

Region	2019		2018		% Change
	Cases	Deaths	Cases	Deaths	
PHL	26,956	381	5,606	51	↑ 381
I	1174	12	80	0	↑ 1,368
II	391	2	13	0	↑ 2,908
III	4287	63	134	3	↑ 3,099
IVA	5281	104	128	2	↑ 4,026
MIMAROPA	1127	9	14	0	↑ 7,950
V	775	7	11	0	↑ 6,945
VI	1607	6	67	0	↑ 2,299
VII	1272	10	112	1	↑ 1,036
VIII	1099	25	7	0	↑ 15,600
IX	332	1	820	4	↓ 60
X	1315	10	492	1	↑ 167
XI	533	10	869	12	↓ 39
XII	536	4	529	5	↑ 1
ARMM	480	6	1851	16	↓ 74
CAR	460	1	17	0	↑ 2,606
CARAGA	701	7	59	1	↑ 1,088
NCR	5586	104	403	6	↑ 1,286

### Profile of Measles Cases

Majority (14,238, 53%) of the confirmed measles cases were male. Ages of cases ranged from **less than 1 month to 88 years** old (median age of 3 years). Age groups with the most number of cases were: 1-4 years old (7,557 or 27%), 6-8 months old (3,739 or 14%), and less than 6 months old (3,113, 12%) (Figure 7).

Figure 7. Measles Cases by Age Group and Sex, Philippines, January 1 to March 30, 2019 (n=26,956)\*



\*240 cases with unspecified age

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Majority (15,777 or 59%) of the measles cases were not vaccinated (Figure 8). Top reasons for non-vaccination of measles-containing vaccine among confirmed cases were: not eligible for vaccination (44%), mother was busy (17%) and child was sick (13%) (Figure 9).

Figure 8. Vaccination Status of Measles Cases, Philippines, January 1 to March 30 (n=26,956)

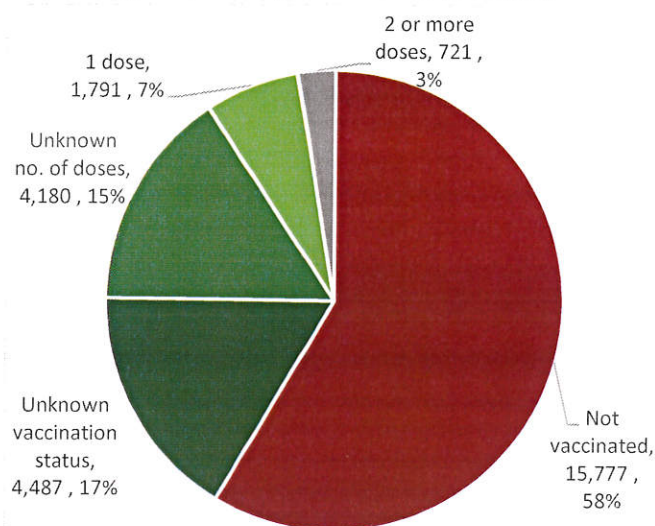
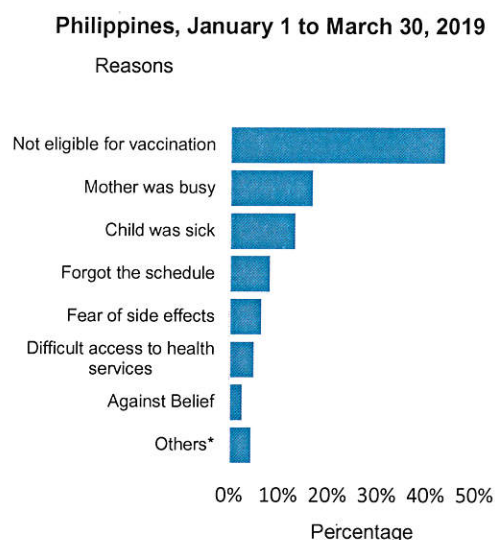


Figure 9. Reasons for Non-vaccination of Measles Vaccine among Measles Cases\*, Philippines, January 1 to March 30, 2019



\*with available data

\*other reasons: moves residence, lack of knowledge, history of travel, medical contraindication, refused vaccination, flood during immunization, received other vaccine, pregnant, mother was sick, and lost vaccination card

#### Profile of Measles Death

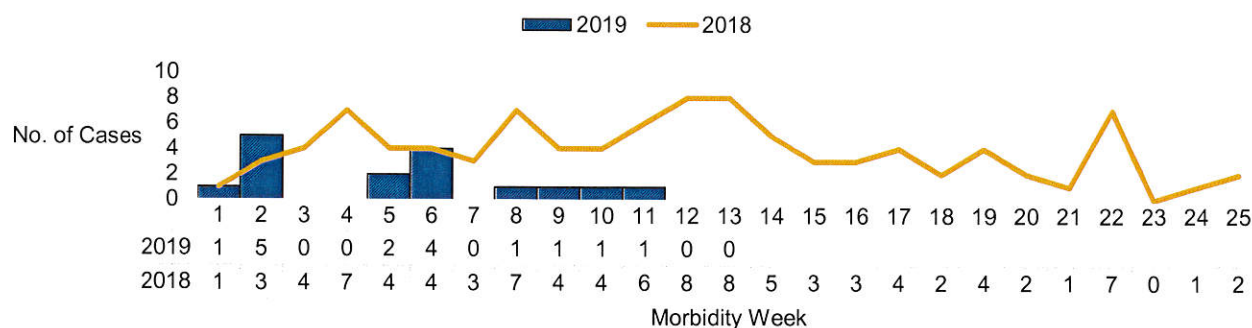
There were 381 deaths (CFR=1.4%) out of the 26,956 measles cases. Ages of deaths ranged from **less than 1 month – 37 years old** (median of 1 year). Top 3 age groups with highest number of deaths were: 1-4 years (168 or 44%), less than 6 months (77 or 20%), and 6-8 months (76, 20%). Majority (300 or 79%) of deaths were not vaccinated.

#### Confirmed Rubella Cases

##### Trend in the Philippines

There were 16 confirmed rubella cases from January 1 to March 30, 2019. The distribution of confirmed rubella cases for 2019 compared to 2018 is shown in Figure 10.

Figure 10. Confirmed Rubella Cases by Morbidity Week, Philippines, 2019 vs 2018 (n=16)



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### Geographic Distribution

Confirmed rubella cases were from Regions I, III, IVA, VI, IX, X, and XI. This is 75% lower compared to the same time period in 2018 (63). However, Region III had 67% increased number of confirmed rubella cases compared to 2018. No deaths were reported (Table 3).

**Table 3. Confirmed Rubella Cases by Region,**  
Philippines, January 1 to March 30, 2019 (n=16) vs. January 1 to March 30, 2018

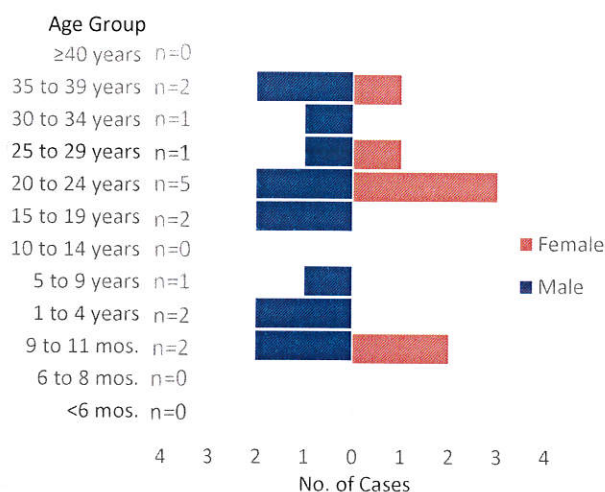
Region	2019		2018		% Change
	Cases	Deaths	Cases	Deaths	
<b>PHL</b>	<b>16</b>	<b>0</b>	<b>63</b>	<b>0</b>	<b>↓ 75</b>
I	1	0	2	0	↓ 50
II	1	0	2	0	↓ 50
III	5	0	3	0	↑ 67
IVA	2	0	10	0	↓ 80
MIMAROPA	0	0	1	0	↓ 100
V	0	0	0	0	-
VI	2	0	2	0	0
VII	0	0	3	0	↓ 100
VIII	0	0	1	0	↓ 100
IX	1	0	3	0	↓ 67
X	1	0	3	0	↓ 67
XI	3	0	17	0	↓ 82
XII	0	0	8	0	↓ 100
ARMM	0	0	2	0	↓ 100
CAR	0	0	1	0	↓ 100
CARAGA	0	0	1	0	↓ 100
NCR	0	0	4	0	↓ 100

### Profile of Rubella Case

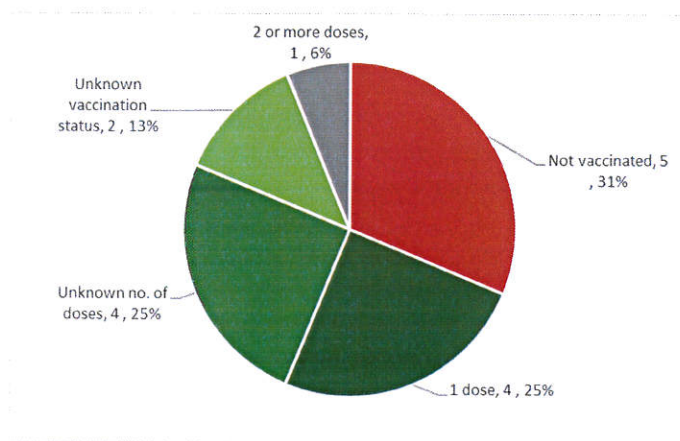
Majority (9 or 56%) of confirmed rubella cases were males. Age of cases ranged from 10 months to 38 years old (median of 20 years). The most affected age group was 20-24 years (5 or 31%). (Figure 11).

Most (5 or 31) of the confirmed rubella cases were not vaccinated. Only 1 (6%) case was reported to have 2 or more doses of measles-containing vaccine which may be MMR (measles-mumps-rubella), the vaccine with rubella component (Figure 12).

**Figure 11. Confirmed Rubella Cases by Age Group and Sex,**  
Philippines, January 1 to March 30, 2019 (n=16)



**Figure 12. Vaccination Status of Confirmed Rubella Cases,**  
Philippines, January 1 to March 30, 2019 (n=16)



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### 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. The surveillance indicators gauge the capacity of the country in achieving the measles elimination goal.

On February 2019, measles outbreak was declared initially in NCR followed by regions in Luzon, Central, and Eastern Visayas. Due to increased number of reported cases, selective laboratory testing of specimens were done and advised epi-linking of cases. Thus, surveillance performance indicators on the incidence rate, timeliness and adequacy of blood collection, timeliness and adequacy of case investigation, annualized non-measles/non-rubella reporting and measles compatible cases were below the target. Suspect measles reporting target of 2 per 100,000 population was achieved due to the increased number of cases reported.

**Table 3. Measles Surveillance Performance Indicators by Region,  
Philippines, January 1 to March 30, 2019 vs. January 1 to March 30, 2018**

REGION	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%	
	2018	2019	2018	2019	2018	2019	2018	2019	2018	2019	2018	2019
I	9.25	33.56	96	64	27	31	8.33	90.39	2.00	0.76	68	95
II	1.12	38.60	117	79	5	16	2.23	43.89	0.56	0.66	12	89
III	16.52	39.67	102	66	62	34	5.43	142.59	0.81	0.69	85	97
IVA	7.98	40.91	85	31	26	14	4.30	133.00	0.75	0.40	97	97
MIMAROPA	1.29	59.89	56	10	21	4	2.46	143.74	0.52	0.13	13	96
V	3.32	23.63	88	32	24	11	1.13	51.39	0.40	0.53	6	94
VI	14.38	32.50	119	66	31	24	4.93	82.67	1.39	0.96	39	95
VII	39.73	50.77	128	72	50	17	7.02	65.34	1.08	0.76	35	91
VIII	1.72	5.09	100	27	30	13	0.86	93.39	0.17	0.08	5	99
IX	303.21	12.61	73	45	35	23	90.22	35.11	2.66	0.11	535	96
X	106.46	72.73	76	45	48	26	41.20	105.74	0.98	0.56	361	93
XI	209.83	113.80	80	61	35	26	72.51	41.24	3.65	0.31	599	71
XII	190.56	35.10	96	63	54	34	47.02	44.33	2.33	0.57	300	91
ARMM	442.51	19.84	36	20	14	6	180.99	45.35	0.78	0.57	1396	96
CAR	4.48	183.85	124	47	70	18	6.05	103.22	2.02	0.44	15	81
CRG	41.56	13.19	83	46	31	7	10.69	103.02	1.78	1.76	31	98
NCR	65.57	123.84	96	25	36	5	12.97	163.51	0.89	0.82	182	92
PHL	68.83	53.58	71	43	32	17	22.55	100.38	1.19	0.61	3779	94
LEGEND:												
<1		≥1		≥80%		<80%		≥80%		<80%		≥2/100,000 Pop.
<1		≥1		≥80%		<80%		≥80%		<80%		<2/100,000 Pop.
<1		≥1		≥80%		<80%		≥80%		<80%		≥2/100,000 Pop.
<1		≥1		≥80%		<80%		≥80%		<80%		<2/100,000 Pop.
<1		≥1		≥80%		<80%		≥80%		<80%		<10%
<1		≥1		≥80%		<80%		≥80%		<80%		≤50%
<1		≥1		≥80%		<80%		≥80%		<80%		>50%



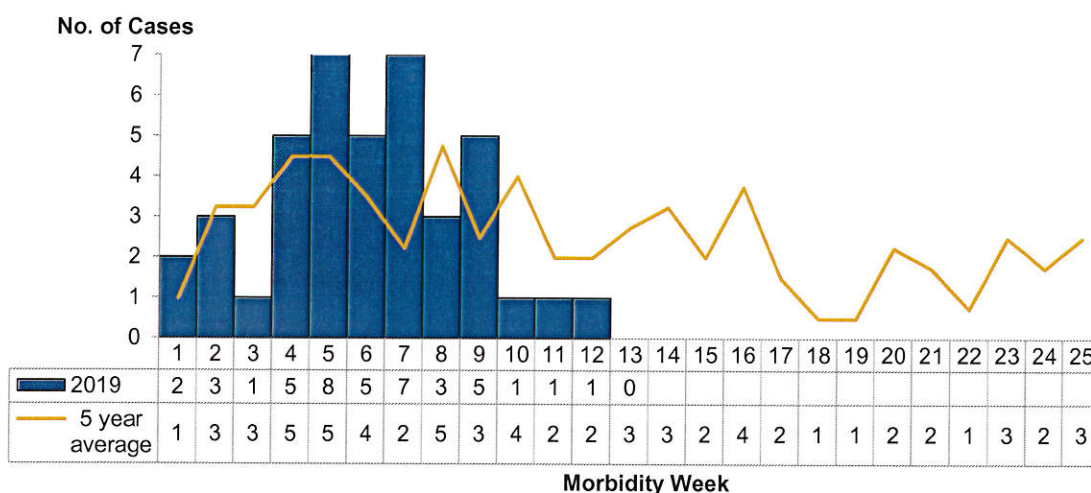


## II. DIPHTHERIA

### Trend in the Philippines

A total of **42** diphtheria cases were reported nationwide from January 1 – March 30, 2019. The distribution of diphtheria cases for 2019 compared to the 5 - year average of cases from 2014 to 2018 is shown below (Figure 13).

Figure 13. Reported Diphtheria Cases by Morbidity Weeks 1 - 13 ( January 1 – March 30, 2019) vs Epidemic and Alert Thresholds Reported Diphtheria Cases (N=42)



### Geographic Distribution

There has been a **27%** increase of diphtheria cases from 33 cases in 2018 to 42 cases in 2019, same time period. Majority of reported diphtheria cases came from NCR (14 or 33%) followed by Region III (6 or 14%). Region with the **highest increase percent change** was Region V (100% increase) (Table 4). Six (14%) of cases were laboratory confirmed out of 42 cases. One (1) cluster was identified as of March 30, 2019. A cluster is defined as two or more diphtheria cases from the same barangay reported within four consecutive weeks (Annex A).

Table 4. Reported Diphtheria Cases by Region, Philippines, January 1 to March 30, 2019 (N=42) vs. January 1 to March 30, 2018

REGION	2019		2018		PERCENT CHANGE
	CASES	DEATHS	CASES	DEATHS	
<b>PHILIPPINES</b>	<b>42</b>	<b>12</b>	<b>33</b>	<b>12</b>	<b>↑27</b>
I	0	0	1	1	↓100
II	0	0	0	0	-
<b>III</b>	<b>6</b>	<b>0</b>	<b>5</b>	<b>2</b>	<b>↑20</b>
IVA	5	1	8	2	↓38
MIMAROPA	1	1	0	0	-
<b>V</b>	<b>2</b>	<b>1</b>	<b>1</b>	<b>1</b>	<b>↑100</b>
VI	4	1	0	0	-
VII	0	0	1	0	↓100
VIII	0	0	1	0	↓100
IX	4	0	0	0	-
X	0	0	0	0	-
XI	0	0	2	1	↓100
XII	1	1	0	0	-
ARMM	1	1	2	1	↓50
CAR	1	0	0	0	-
CARAGA	3	0	0	0	-
<b>NCR</b>	<b>14</b>	<b>6</b>	<b>12</b>	<b>4</b>	<b>↑17</b>

Case counts reported here do NOT represent the final number and are subject to change after inclusion of delayed reports and review of cases. All 2019 data reflects partial data only of all regions.

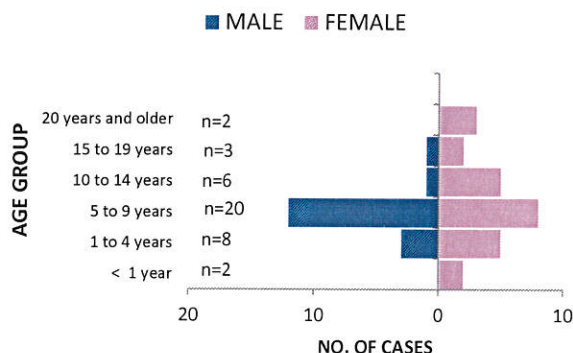


## Profile of Cases

### A. Cases

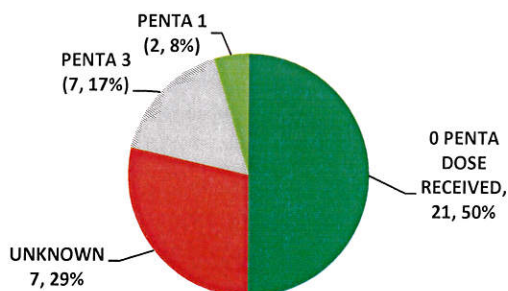
There were **17 (40%) males** and **25 females (60%)** among the reported diphtheria cases. Age of cases ranged from **6 months to 36 years old** (median age of 7 years). Age groups with most number of cases were **5 – 9 years old (20 or 48%)**, followed by **1 – 4 years old** with (8 or 19%) (Figure14).

Figure 14. Diphtheria Cases by Age Group and Sex, Philippines, January 1 to March 30, 2019 (N=42)



Vaccination status showed that **(7 or 17%)** of the reported cases received **complete 3 primary doses** of the DPT/Pentavalent vaccine. **21 (50%)** did not receive a dose of the DPT/Pentavalent vaccine (Figure 15).

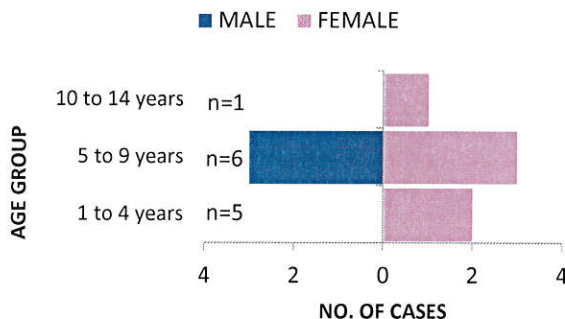
Figure 15. Reported Diphtheria Cases by DPT Dose Received, Philippines, January 1 to March 30, 2019 (N=42)



### B. Deaths

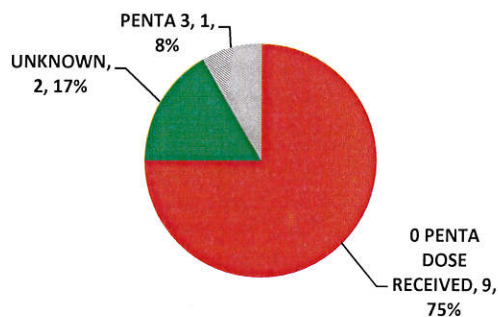
There were **12 deaths (CFR=29%)** among the 42 reported diphtheria cases. Ages of deaths ranged from 1 to 11 years old (median age of 5 years). Age groups with the most number of deaths were **1 – 4 years old and 5 - 9 years old** both have (3 or 43%) (Figure16).

Figure 16. Reported Diphtheria Deaths by Age Group and Sex, Philippines, January 1 to March 30, 2019 (n=12)



Vaccination status showed that majority (**9 or 75%**) of the reported deaths did not received the DPT/Pentavalent vaccine while **1 (8%)** receive 3 doses of the DPT/Pentavalent vaccine and **2 (17%)** had unknown vaccination status. (Figure17).

Figure 17. Diphtheria Deaths by DPT Dose Received, Philippines, January 1 to March 30, 2019 (n=12)



### C. Confirmed Cases

Four (**67%**) **males** and **2 (33%) females** were laboratory confirmed diphtheria cases. Age ranges from 2 – 12 years old (median of 6 years old). **4 (67%)** did not receive DPT/Pentavalent vaccine and **2 (33%)** have unknown vaccination status.

### D. Profile of Confirmed Diphtheria Deaths

There were three (3) deaths among six (6) laboratory confirmed pertussis cases. Ages of reported deaths were 2, 5, and 6 years old. All reported laboratory confirmed deaths did not received DPT/Pentavalent vaccines.



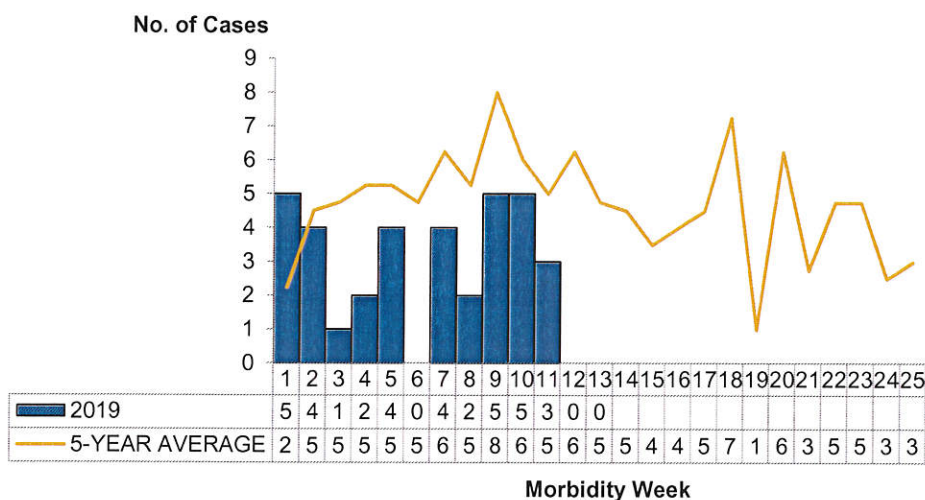


### III. PERTUSSIS

#### Trend in the Philippines

A total of **35** pertussis cases were reported nationwide from January 1 – March 30, 2019. The distribution of pertussis cases for 2019 compared to the 5 - year average of cases from 2014 to 2018 is shown below (Figure 18).

**Figure 18. Reported Pertussis Cases by Morbidity Week, Philippines, January 1 to March 30, 2019 (N=35)**



#### Geographic Distribution

There has been a **61%** decrease among the reported pertussis cases from 90 cases in 2018 to 35 cases in 2019, same time period. Reported pertussis cases came from Region XI and NCR both reported to have (9 or 26%) followed by Region I, II, and VII with (4 or 11%) cases each (Table 5). 5 (14%) cases were confirmed out of 35 cases. No reported Pertussis clusters identified as of March 30, 2019. A cluster is defined as two (2) or more pertussis cases from the same barangay reported within four (4) consecutive weeks.

**Table 5. Reported Pertussis Cases by Region, Philippines, January 1 to March 30, 2019 (N=35) vs. January 1 to March 30, 2018**

REGION	2019		2018		PERCENT CHANGE
	CASES	DEATHS	CASES	DEATHS	
<b>PHILIPPINES</b>	<b>35</b>	<b>3</b>	<b>90</b>	<b>6</b>	<b>↓61</b>
I	3	0	3	0	0
II	4	0	4	2	0
III	1	0	10	1	↓90
IVA	1	0	13	1	↓92
MIMAROPA	0	0	0	0	-
V	0	0	1	0	↓100
VI	1	0	2	0	↓50
VII	4	0	11	1	↓64
VIII	0	0	0	0	-
IX	0	0	0	0	-
X	1	1	1	0	0
XI	9	1	9	1	0
XII	0	0	1	0	↓100
ARMM	0	0	2	0	↓100
CAR	2	0	3	0	↓33
CARAGA	0	0	8	0	↓100
NCR	9	1	22	0	↓59

Case counts reported here do NOT represent the final number and are subject to change after inclusion of delayed reports and review of cases. All 2019 data reflects partial data only of all regions.

A PDF file of this report is available at [www.doh.gov.ph/statistics](http://www.doh.gov.ph/statistics).

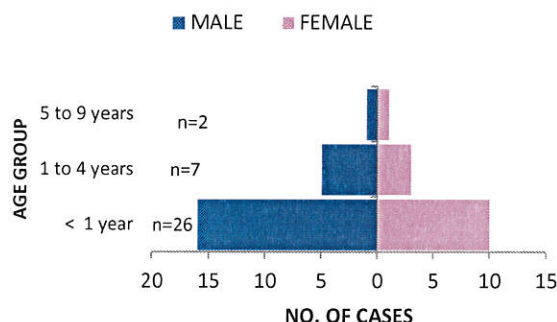


**Profile of Cases**

**A. Cases**

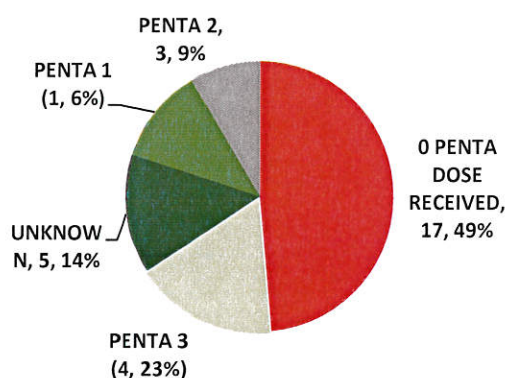
There were **21 males (60%)** and **14 females (40%)** among the reported pertussis cases. Age of cases ranged from **1 month to 7 years old** (median age of 5 months). Age groups with most number of cases were **below 1 years old** with (26 or 74%) followed by 1 – 4 years old with (7 or 20%) (Figure 19).

**Figure 19. Pertussis Cases  
by Age Group and Sex,  
Philippines, January 1 to March 30, 2019 (N=35)**



Vaccination status showed that **7 or 19%** of the reported cases received **complete 3 primary doses** of the DPT/Pentavalent vaccine. 17 (47%) did not receive a dose of the DPT/Pentavalent vaccine, Five (13%) have unknown dose received and Four (11%) received only 1 dose. (Figure 20).

**Figure 20. Reported Pertussis Cases  
by DPT Dose Received,  
Philippines, January 1 to March 30, 2019 (N=35)**



**B. Deaths**

There were **three (3)** deaths (CFR=9%) among the 35 reported pertussis cases. Ages: 1 month – 2 months old (median: 2 months)

Vaccination status showed that 3 (100%) of the reported deaths did not received the DPT/Pentavalent vaccine.

**C. Confirmed Cases**

Four (4) males and two (2) females were laboratory confirmed pertussis cases. Age ranges from 1 month – 4 years old (median 1 year old). Three (60%) of the confirmed cases **were not vaccinated** and (2, 40%) received 3 doses of DPT/Pentavalent vaccine.

**D. Profile of a Confirmed Pertussis death**

There was one (1) death among three (3) confirmed pertussis cases. Age of death was 2 months old.



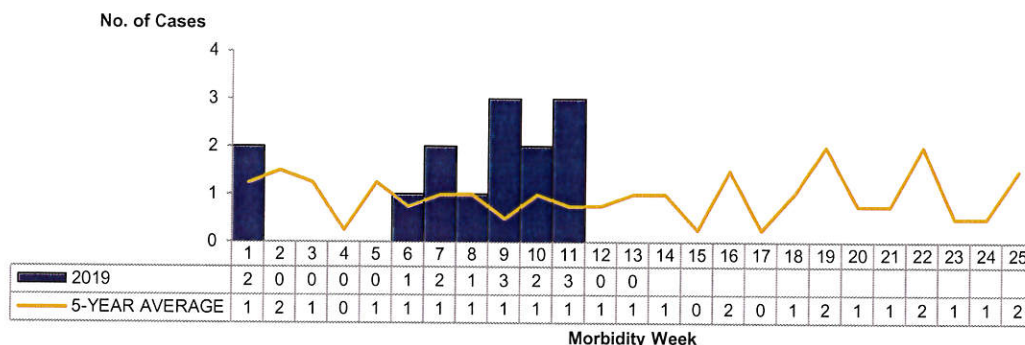


#### IV. NEONATAL TETANUS

##### Trend in the Philippines

A total of **14** clinically confirmed neonatal tetanus (NT) cases were reported nationwide from January 1 – March 30, 2019. The distribution of neonatal tetanus cases for 2019 compared to the 5-year average of cases from 2014 to 2019 is shown below (Figure 21).

**Figure 21. Neonatal Tetanus Cases by Morbidity Week, Philippines, January 1 to March 30, 2019 (N=14)**



##### Geographic Distribution

There has been no change of reported neonatal tetanus cases from 14 cases in 2018 to 14 cases in 2019, same time period. Most reported cases were from **ARMM and MIMAROPA** with four (4) cases each, while Region XII have three (3) cases (Table 7). All regions have maintained the <1/1000 livebirths NT rate under Maternal and Neonatal Tetanus Elimination standards.

**Table 7. Neonatal Tetanus Cases by Region, Philippines, January 1 to March 30, 2019 (N=4) vs. January 1 to March 30, 2018**

REGION	2019			2018		
	Cases	Annualized NT rate (per 1,000 livebirths)	Deaths	Cases	Annualized NT rate (per 1,000 livebirths)	Deaths
<b>PHL</b>	<b>14</b>	<b>0.00</b>	<b>7</b>	<b>14</b>	<b>0.00</b>	<b>8</b>
I	0	0.00	0	0	0.00	0
II	0	0.00	0	1	0.01	0
III	0	0.00	0	1	0.00	1
IVA	1	0.00	0	0	0.00	0
MIMAROPA	4	0.05	1	0	0.00	0
V	0	0.00	0	0	0.00	0
VI	2	0.01	2	0	0.00	0
VII	0	0.00	0	0	0.00	0
VIII	0	0.00	0	1	0.01	1
IX	0	0.00	0	2	0.02	1
X	0	0.00	0	0	0.00	0
XI	0	0.00	0	0	0.00	0
XII	3	0.02	3	2	0.02	1
ARMM	4	0.04	1	6	0.06	4
CAR	0	0.00	0	0	0.00	0
CARAGA	0	0.00	0	0	0.00	0
NCR	0	0.00	0	1	0.00	0

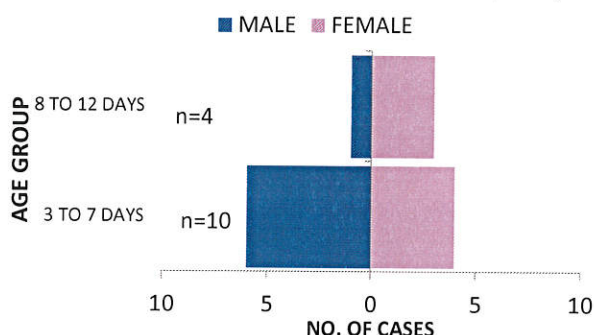


## Profile of Cases

### A. Age group and Sex

Among the clinically-confirmed NT cases, Seven (50%) **male** and seven (50%) **female**. Age of cases ranges from 4 – 10 days old (median age of 7 days old). (Figure 23).

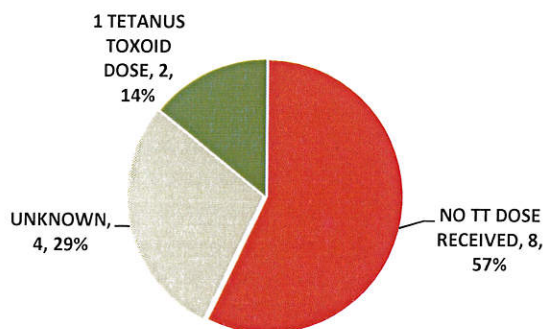
**Figure 23. Clinically Confirmed Neonatal Tetanus Cases by Age Group and Sex, Philippines, January 1 to March 30, 2019 (N=14)**



### B. Vaccination Status

Eight (57%) of the mothers of clinically confirmed cases **did not receive any dose of the tetanus toxoid vaccine**, followed with unknown vaccination status (4 or 29%) and (2 or 14%) received one dose of tetanus toxoid. (Figure 24).

**Figure 24. Clinically Confirmed Neonatal Tetanus Cases by Vaccination Status, Philippines, January 1 to March 30, 2019 (N=14)**



### C. Delivery Practices among Clinically Confirmed Neonatal Tetanus Cases

In terms of delivery practices, 14 (100%) of the neonatal tetanus cases were delivered at home. Five (36%) of the cases were attended by a traditional birth attendant, (4 or 29%) by a hilot, 2 (14%) by a lay-person, and 3 (21%) unknown. Seven (50%) had blade, (6 or 42%) bamboo and (1, 7%) scissors used as the common cord cutting tool. Umbilical stump treatment of the NT case was alcohol 5 (36%) while (4 or 29%) used other materials and (5 or 36%) was unknown (Table 8).

**Table 8. Delivery Practices of Clinically Confirmed Neonatal Tetanus Cases, Philippines, January 1 to March 30, 2019 (N=14)**

\*Other stump treatment material include hot water and powdered

Delivery Practices	No. of Cases	Percentage
<b>Place of Delivery</b>		
Home	14	100%
<b>Delivery Attendant</b>		
TBA	5	36%
Hilot	4	29%
Lay-person	2	14%
Unknown	3	21%
<b>Cord Cut Tool Used</b>		
Blade	7	50%
Bamboo	6	42%
Scissors	1	7%
<b>Stump Treatment Used</b>		
Alcohol	5	36%
Others*	4	29%
Unknown	5	36%

coconut shell

## Profile of Neonatal Tetanus Deaths

There were seven (7) deaths (CFR=50%) among the 14 neonatal tetanus cases. Ages of deaths ranges from 5 – 10 days old. Mother of reported deaths (4, 57%) had unknown vaccination status and (3, 43%) did not received any dose of Tetanus Toxoid.





**D. Neonatal Tetanus Surveillance Indicators by Regions**

Reporting rates was still below the target while investigation rate reached ( $\geq 80\%$ ) target (Table 9).

**Table 9. Neonatal Tetanus Surveillance Indicators by Region  
Philippines, January 1 to March 30, 2019 (N=14)**

REGION	Clinically Confirmed Neonatal Tetanus Cases		
	NT Rate(1<(1,000LB)	TIMELINESS OF REPORTING	TIMELINESS OF INVESTIGATION
PHL	0.005	REPORTING RATE ( $\geq 80\%$ )	INVESTIGATION RATE ( $\geq 80\%$ )
I	0.000		
II	0.000		
III	0.000		
IVA	0.002	0%	100.00%
MIMAROPA	0.048	25%	100.00%
V	0.000		
VI	0.010	50%	100.00%
VII	0.000		
VIII	0.000		
IX	0.000		
X	0.000		
XI	0.000		
XII	0.023	67%	100.00%
ARMM	0.036	50%	100.00%
CAR	0.000		
CARAGA	0.000		
NCR	0.000		
LEGEND:	<1/1,000 LB	<80%	$\geq 80\%$

**Neonatal Tetanus Elimination in the Philippines**

NT elimination is defined as the achievement of <1 NT case per 1,000 live births (LB) in every province/city of every country. This is operationally defined by an algorithm assessing four major indicators: reported incident of NT, the reliability of NT surveillance (quality NT surveillance indicators), the proportion of women with at least two doses of tetanus toxoid (TT2+) and the estimated clean delivery rate.



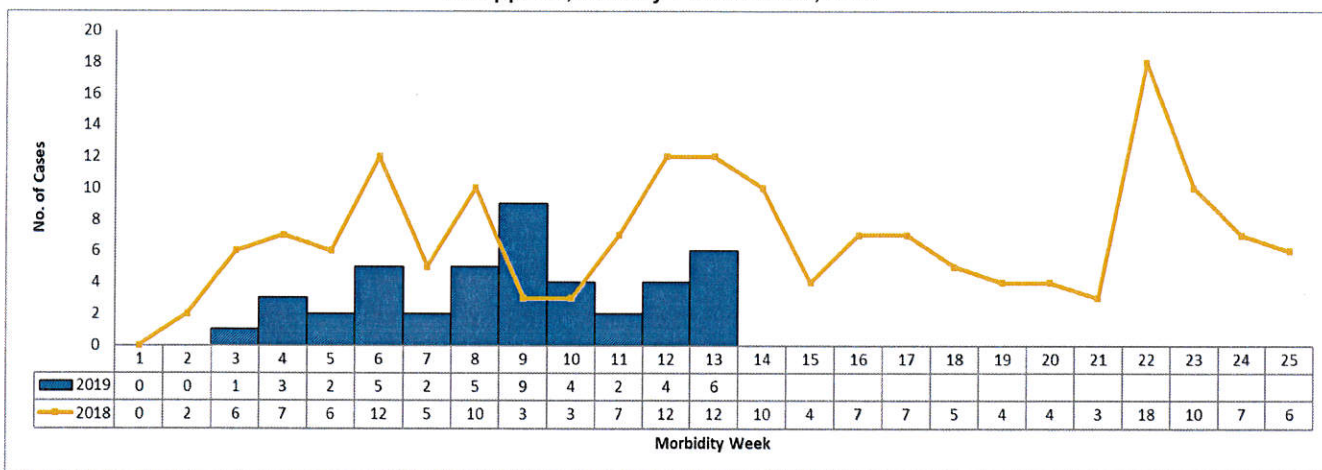
## V. ACUTE FLACCID PARALYSIS

AFP surveillance is an essential strategy which aims to look for poliovirus circulation in the community by investigating all possible polio cases. Its role is to identify high risk areas or groups and certify that the Philippines is still polio-free.

### Trend in the Philippines

A total of **43 AFP** cases were reported nationwide from January 1 to March 30, 2019. The distribution of AFP cases for 2019 compared to 2018 is shown below (Figure 25).

Figure 25. Trend of Reported AFP Cases (N=43)  
Philippines, January 1 to March 30, 2019



### Geographic Distribution

A total of 43 AFP cases were reported from January to March 30, 2019. Among the 43 reported AFP cases, 12 (28%) were discarded as non-polio AFP, while 27 (63%) are still pending for 60-day follow-up, expert panel review and for official laboratory result. There were 4 (9%) reported cases that did not fit the case definition and were classified as not AFP (Table 9).

Table 9. Reported AFP Cases by Region and Classification  
January 1 to March 30, 2019

REGION	2019 Target AFP Cases 2/100k	2019 Target AFP Cases 1/100k	Reported Cases	Classification			Total Number of Classified Cases
				Non-Polio (Discarded)	NOT AFP	Pending	
PHL	688	344	43	12	4	27	16
I	32	16	2	1	0	1	1
II	22	11	0	0	0	0	0
III	72	36	1	0	0	1	0
IVA	96	48	5	2	0	3	2
MIMAROPA	22	11	0	0	0	0	0
V	44	22	3	0	0	3	0
VI	48	24	7	2	0	5	2
VII	51	25	2	0	0	2	0
VIII	32	16	6	2	1	3	3
IX	27	13	4	2	0	2	2
X	34	17	0	0	0	0	0
XI	34	17	5	2	1	2	3
XII	34	17	3	0	0	3	0
ARMM	36	18	1	0	0	1	0
CAR	11	6	1	1	0	0	1
CARAGA	19	9	0	0	0	0	0
NCR	74	38	3	0	2	1	2

Case counts reported here do NOT represent the final number and are subject to change after inclusion of delayed reports and review of cases. All 2019 data reflects partial data only of all regions.



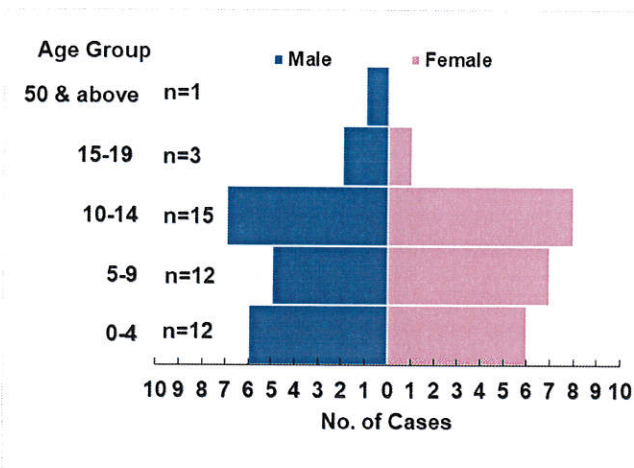


## Profile of Cases

### A. Age group and Sex

Twenty-one (49%) are males while 22 (51%) are females. Age ranges from 3 months to 57 years (median age of 8 years old). Fifteen (35%) of the AFP cases reported belong to 10-14 age group (Figure 26).

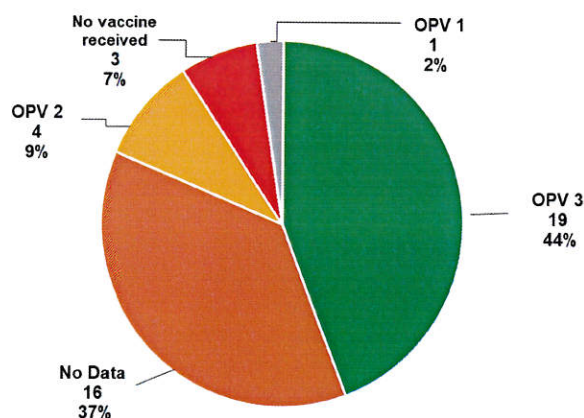
Figure 26. AFP Cases by Sex and Age Group (N=43)  
Philippines, January 1 to March 30, 2019



### B. Vaccination Status

Among the 43 reported AFP cases, 19 (44%) completed 3 doses of OPV, 4 (9%) had OPV 2 and 1 (2%) had OPV 1. Sixteen (37%) had no data (Figure 27).

Figure 27. Vaccination Status of AFP Cases (N=43)  
Philippines, January 1 to March 30, 2019



### C. Laboratory Status

There were no isolated wild or vaccine-derived poliovirus from January 1 to March 30. Stool 1 was collected in 42 (98%) AFP cases and stool 2 in 41 (95%) of AFP cases. One case had poliovirus Sabin-like type 3 isolated (Table 10).

Table 10. Laboratory Status of Reported AFP Cases (N=43)  
Philippines, January 1 to March 30, 2019

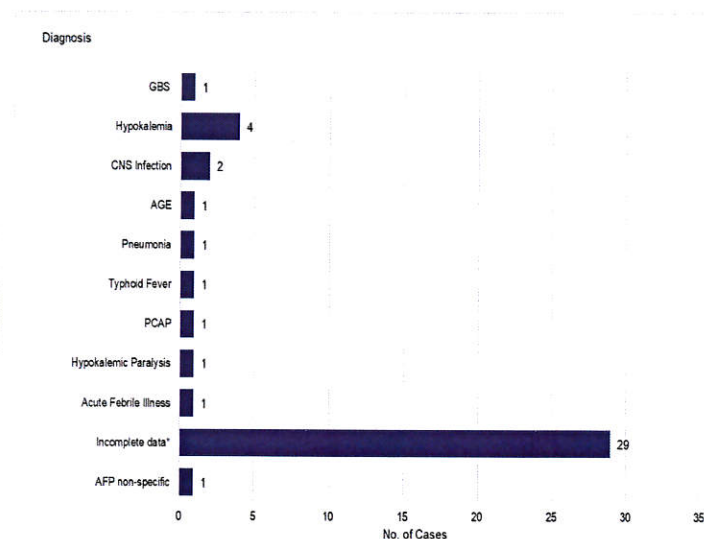
Stool Specimen Result	Stool Specimen 1		Stool Specimen 2	
<b>Total</b>	<b>42</b>	<b>98%</b>	<b>41</b>	<b>95%</b>
Negative for poliovirus	13	31%	12	29%
Others				
Poliovirus (Sabin-Like)*	1	2%	1	2%
Non-polio enterovirus (NPEV)	1	2%	2	5%
Pending Lab Results	27	64%	26	63%

\* PV Sabin like type 1,3 and Sabin like type 3

### D. Differential Diagnosis

The top diagnosis among AFP cases reported were Hypokalemia (4 or 9%) and CNS Infection (2 or 5%). However, there are 29 (67%) cases with incomplete data (Figure 29).

Figure 29. AFP Cases by Differential Diagnosis (N=43)  
Philippines, January 1 to March 30, 2019







### SURVEILLANCE PERFORMANCE INDICATORS – AFP REPORTING RATE AND NON – POLIO AFP RATE

From January 1 to March 30, 2019, there were **43** AFP cases reported, providing the Philippines an annualized reporting rate of **0.45 / 100,000** population of children under 15 years old. Three (3) Regions were able to reach and surpass the target. The incidence of AFP (non-polio AFP rate) caused by diseases other than poliomyelitis is **0.14 / 100,000** population of children under 15 years age. Three (3) regions have nearly reached the target. (Figure 30 & Table 11)

Figure 30. THREE-YEAR COMPARISON OF NON-POLIO AFP RATE BY REGION, PHILIPPINES, 2017-2019\*

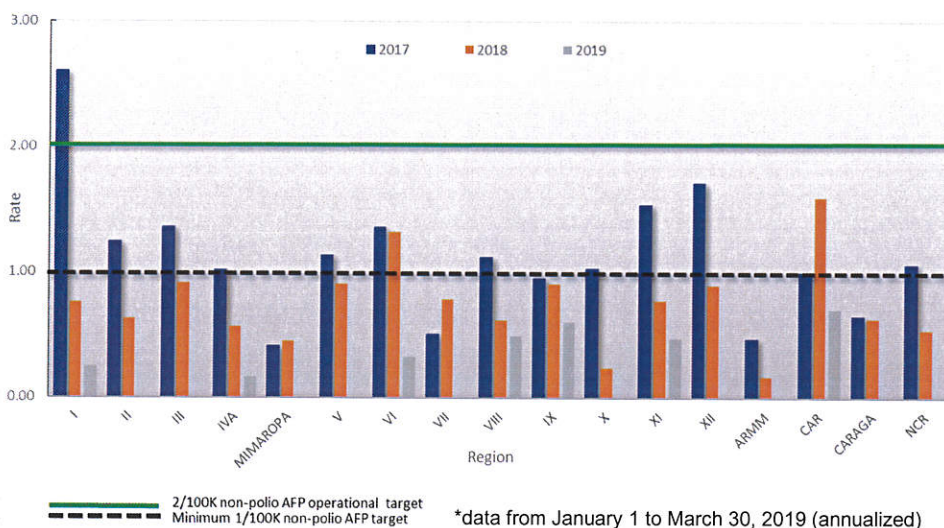


TABLE 11. REPORTING AND NON-POLIO AFP RATE AS OF MW 1-13

REGION	Annualized Reporting Rate	Annualized Non-Polio AFP Rate
PHL	0.45	0.14
I	0.50	0.25
II	0.00	0.00
III	0.11	0.00
IVA	0.42	0.17
MIMAROPA	0.00	0.00
V	0.55	0.00
VI	1.17	0.33
VII	0.32	0.00
VIII	1.25	0.50
IX	1.23	0.62
X	0.00	0.00
XI	0.94	0.47
XII	0.71	0.00
ARMM	0.22	0.00
CAR	0.67	0.67
CARAGA	0.00	0.00
NCR	0.11	0.00

### SURVEILLANCE PERFORMANCE INDICATORS – STOOL SPECIMEN ADEQUACY RATE

All AFP cases should have full clinical and virological investigation with at least 80% of AFP cases having adequate stool specimens collected. Among the **10 non-polio** AFP cases, **9 (90%)** cases have 2 stool specimens collected within 14 days from the onset which gives us an adequacy rate of **90%** (Table 12). A portion of (**1 or 10%**) had 2 stool specimen collected beyond the required collection period. Among the 17 Regions, **5** Regions have reached or surpassed the target rate of

Figure 31. STOOL SPECIMEN ADEQUACY RATE BY REGION, PHILIPPINES, January 1 – March 30, 2019

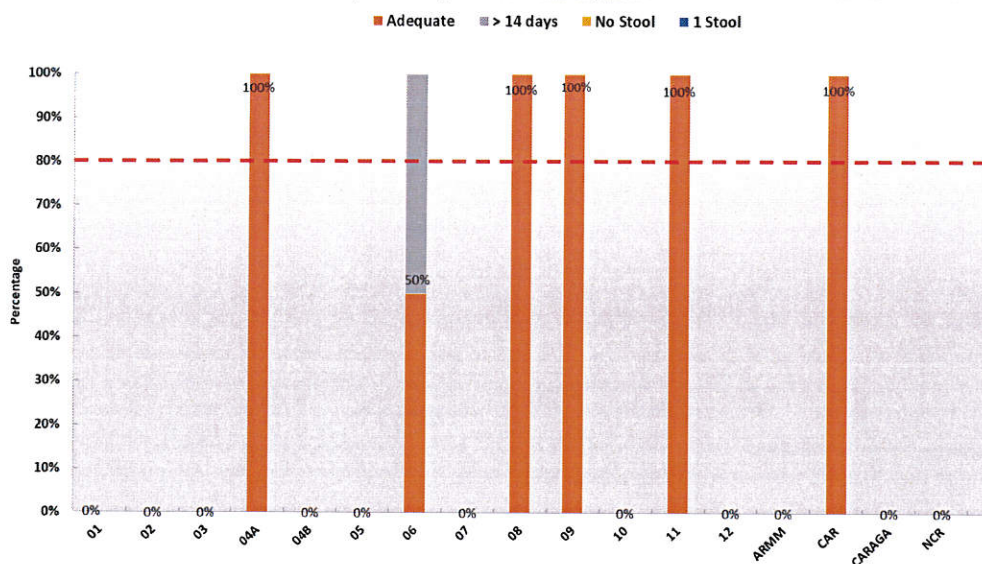


TABLE 12. STOOL SPECIMEN ADEQUACY RATE OF MW 1-13

Region	Stool Specimen Adequacy Rate
I	-
II	-
III	-
IVA	100
IVB	-
V	-
VI	50
VII	-
VIII	100
IX	100
X	-
XI	100
XII	-
ARMM	-
CAR	100
CARAGA	-
NCR	-
PHL	90

Reached or surpassed target
Nearly reached target
Substantially below target

\*not AFP and pending cases are excluded in the analysis

Case counts reported here do NOT represent the final number and are subject to change after inclusion of delayed reports and review of cases. All 2018 data reflects partial data only of all regions.

A PDF file of this report is available at [www.doh.gov.ph/statistics](http://www.doh.gov.ph/statistics).





**ANNEX A. CLUSTER OF DIPHTHERIA CASES**

MORBIDITY WEEK	REGION	PROVINCE	MUNCITY	BARANGAY	CASES	
					CONFIRMED	SUSPECT
5-7	III	BULACAN	BOCAUE	ANTIPONA	0	2