



## 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 November 24, 2018 or Morbidity Weeks 1 - 47 (Table 1).

Table 1. Summary of Reported Vaccine Preventable Diseases, Philippines, January 1 – November 24, 2018

Vaccine Preventable Diseases	Total No of Cases	Confirmed Cases		
		Cases	Deaths	CFR %
Measles	18,691	4,413	57	1.29
Rubella		118	0	-
Diphtheria	153	117	36	24
Pertussis	301	292	9	3
Neonatal Tetanus	49	20	29	59
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.
Note: Persons with positive <i>Corynebacterium diphtheriae</i> cultures who do not meet the clinical description (i.e. asymptomatic carriers) should not be reported as probable or confirmed diphtheria cases.	
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	- A case of acute cough illness of any duration with a positive culture for <i>B. pertussis</i> ; OR - A case that meets the clinical case definition and is confirmed by PCR; OR - A case that meets the clinical definition and is epidemiologically linked directly to a case confirmed by either culture or PCR.
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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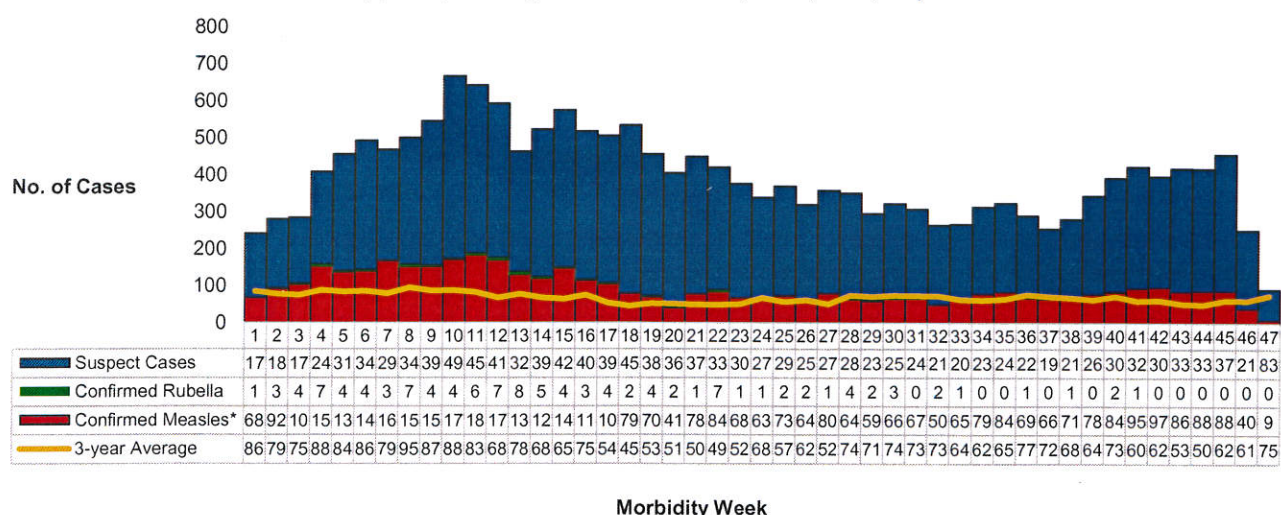
## I. MEASLES-RUBELLA

### Suspect Cases

#### Trend in the Philippines

A total of 18,691 suspect measles-rubella cases were reported from January 1 to November 24, 2018. The distribution of reported cases for 2018 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 November 24, 2018 (N=18,691)**



Morbidity Week

\*laboratory-confirmed and epidemiologically-linked measles cases

#### Geographic Distribution

From January 1 to November 24, 2018 or morbidity weeks 1 to 47, cases are 373% higher than the number of cases reported during the same time period in 2017 (3,951). Most of the reported cases were from the following regions: ARMM (4,171, 22%), NCR (2,946, 16%), Region IV-A (1,806, 10%), Region XII (1,690, 9%) and Region XI (1,538, 8%) (Table 1).

**Table 1. Reported Measles-Rubella Cases by Region, Philippines, January 1 to November 24, 2018 (N=18,691) vs. January 1 to November 24, 2017**

Region	2018		2017		% Change
	Cases	Deaths	Cases	Deaths	
<b>PHL</b>	<b>18,691</b>	<b>175</b>	<b>3,951</b>	<b>28</b>	<b>↑ 373</b>
<b>I</b>	573	3	423	1	↑ 35
<b>II</b>	75	0	56	0	↑ 34
<b>III</b>	922	16	400	2	↑ 131
<b>IVA</b>	1,806	22	637	3	↑ 184
<b>MIMAROPA</b>	70	0	60	0	↑ 17
<b>V</b>	326	8	65	0	↑ 402
<b>VI</b>	657	3	293	0	↑ 124
<b>VII</b>	337	1	55	0	↑ 513
<b>VIII</b>	181	5	81	0	↑ 123
<b>IX</b>	1,388	8	464	4	↑ 199
<b>X</b>	1,534	2	146	0	↑ 951
<b>XI</b>	1,538	20	92	2	↑ 1,572
<b>XII</b>	1,690	11	93	1	↑ 1,717
<b>ARMM</b>	4,171	30	529	12	↑ 688
<b>CAR</b>	174	0	191	0	↓ 9
<b>CARAGA</b>	303	2	45	0	↑ 573
<b>NCR</b>	2,946	44	321	3	↑ 818

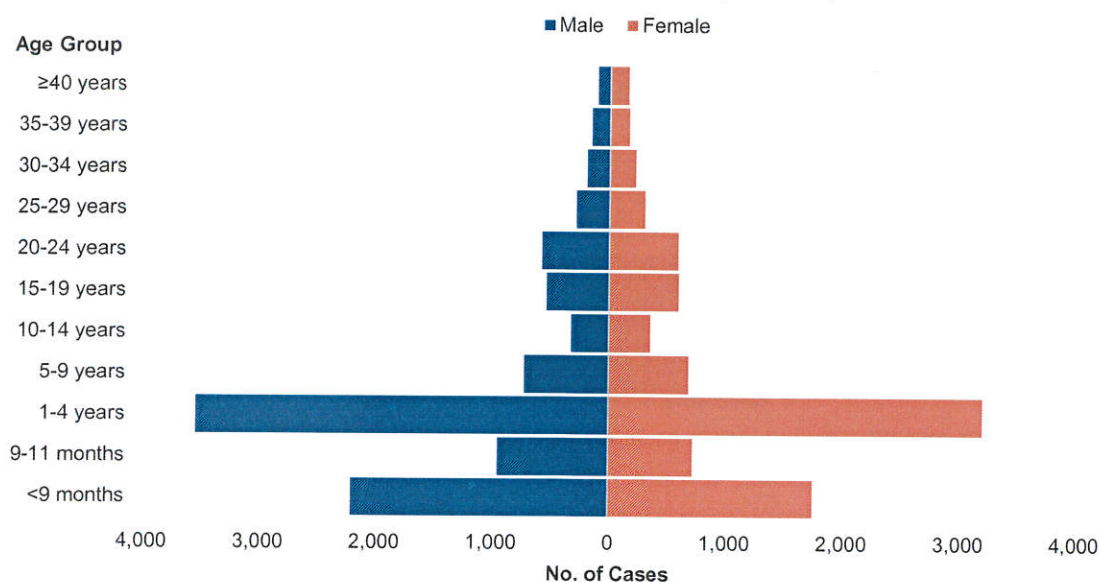




### Profile of Reported Cases

Majority (9,744, 52%) of the reported cases were male. Ages of cases ranged from **less than 1 month to 87 years old** (median age of 2 years). Age groups with the most number of cases were: 1-4 years old (6,745, 36%), less than 9 months old (3,961, 21%) and 9-11 months old (1,677, 9%) (Figure 2).

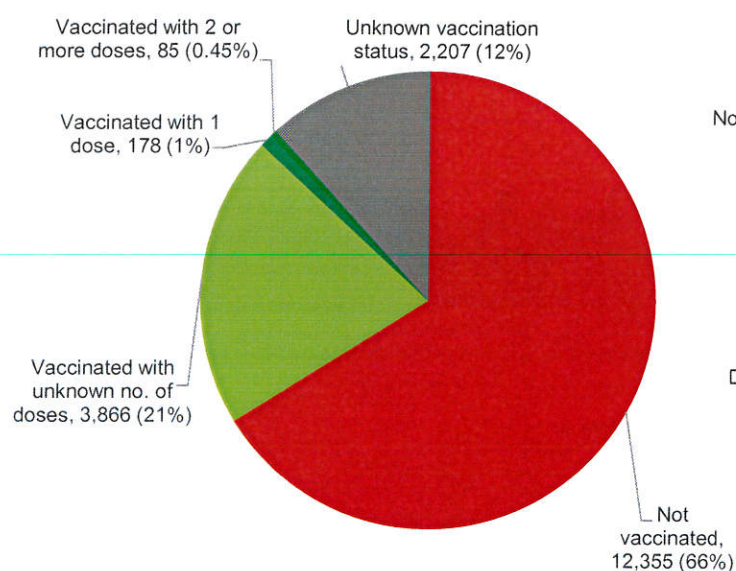
**Figure 2. Reported Measles-Rubella Cases by Age Group and Sex, Philippines, January 1 to November 24, 2018 (N=18,691)\***



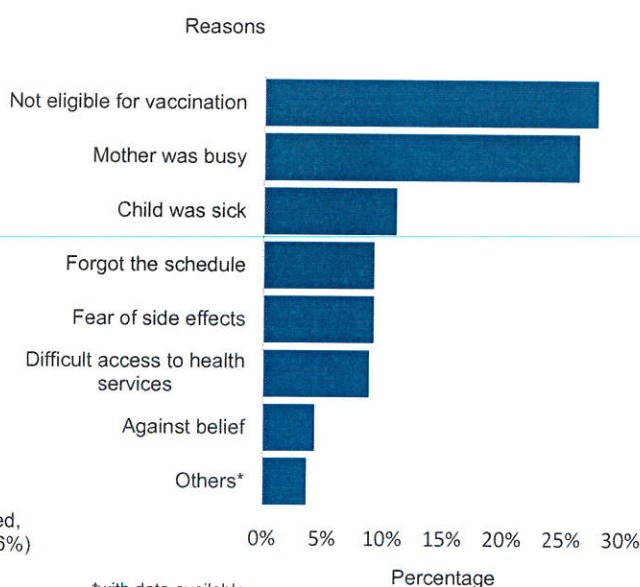
\*311 cases with unspecified age

Majority (12,355, 66%) of the cases were not vaccinated (Figure 3). Top reasons for non-vaccination of measles-containing vaccine were: not eligible for vaccination (27%), mother was busy (26%), and child was sick (11%) (Figure 4).

**Figure 3. Vaccination Status of Reported Measles-Rubella Cases, Philippines, January 1 to November 24, 2018 (N=18,691)**



**Figure 4. Reasons for Non-vaccination of Measles Vaccine\*, Philippines, January 1 to November 24, 2018**



\*with data available

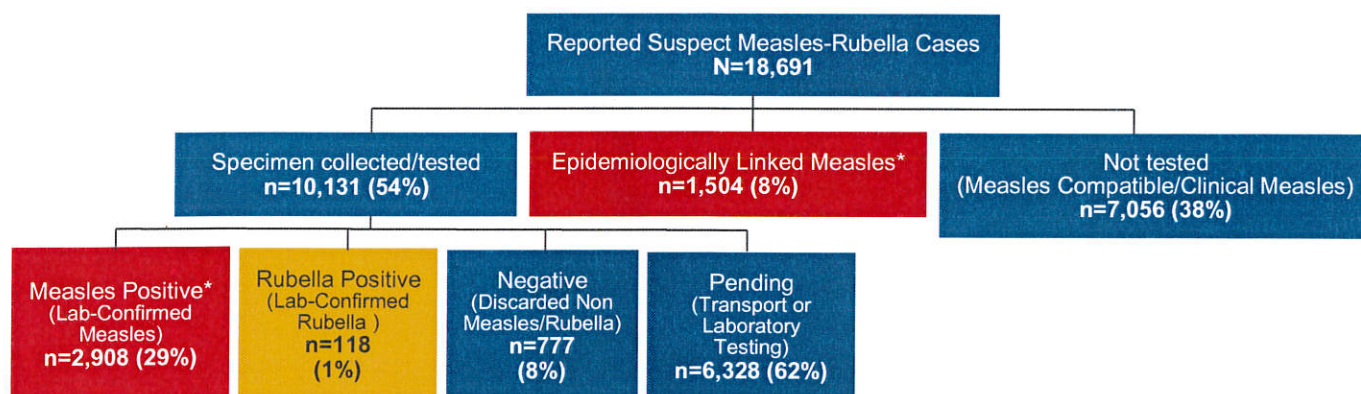
\*other reasons: moves residence, lack of knowledge, history of travel, medical contraindication, parents refused, child was abandoned, war conflict, unavailable during vaccination, lost vaccination card and laziness



### Case Classification

Among the 18,691 reported cases, a total of 10,131 (54%) cases had specimens collected/tested for measles/rubella IgM and/or PCR. Among the tested cases, 2,908 (29%) were positive for measles and 118 (1%) were positive for rubella. 1,504 (8%) 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 November 24, 2018, 2018 (N=18,691)**



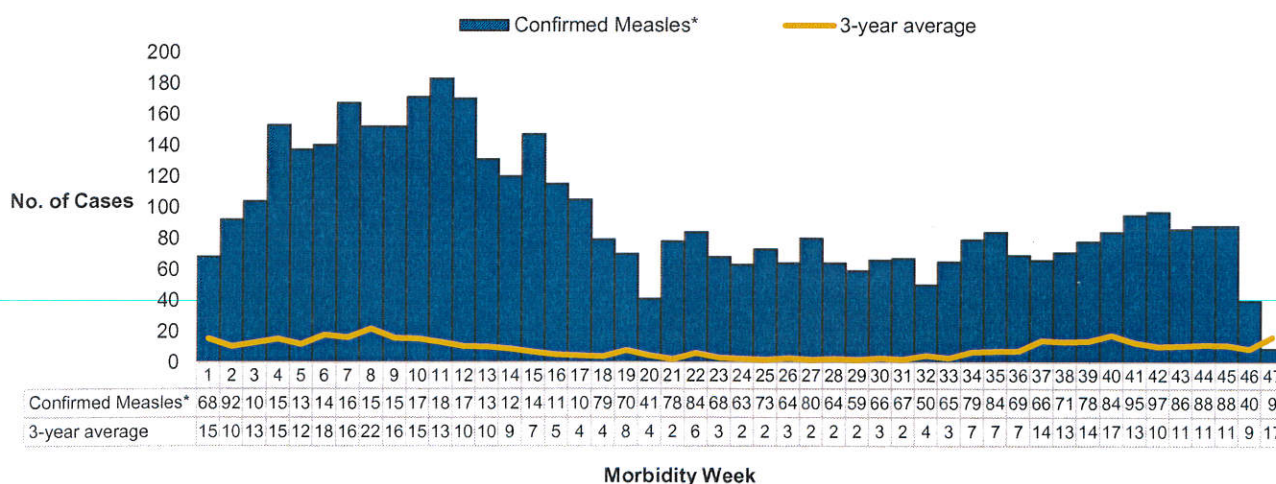
\*Confirmed measles cases = laboratory-confirmed and epidemiologically-linked measles cases (N= 4,412)

### Confirmed Measles Cases

#### Trend in the Philippines

There were 4,412 confirmed measles cases with 57 deaths (CFR=1.29%). The distribution of confirmed measles cases for 2018 compared to the 3-year average of cases from 2015-2017 is shown in Figure 6.

**Figure 6. Confirmed Measles Cases by Morbidity Week, Philippines, January 1 to November 24, 2018 (n=4,412)**







### Geographic Distribution

Most of the confirmed measles cases were from the following regions: NCR (932, 21%), ARMM (622, 14%), Region IV-A (454, 10%), Region XI (439, 10%) and Region XII (419, 10%). Confirmed measles cases in 2018 increased by 779% compared to the same period in 2017 (Table 2).

Top 5 provinces with confirmed cases include: Davao del Sur (324, 7%), Rizal (322, 7%), Lanao del Sur (311, 7%), Maguindanao (274, 6%), and Zamboanga del Sur (193, 4%).

Top 5 municipalities with confirmed cases include: Davao City (309, 7%), Manila (200, 5%), Zamboanga City (158, 4%), Cotabato City (153, 3%), and Quezon City (130, 3%).

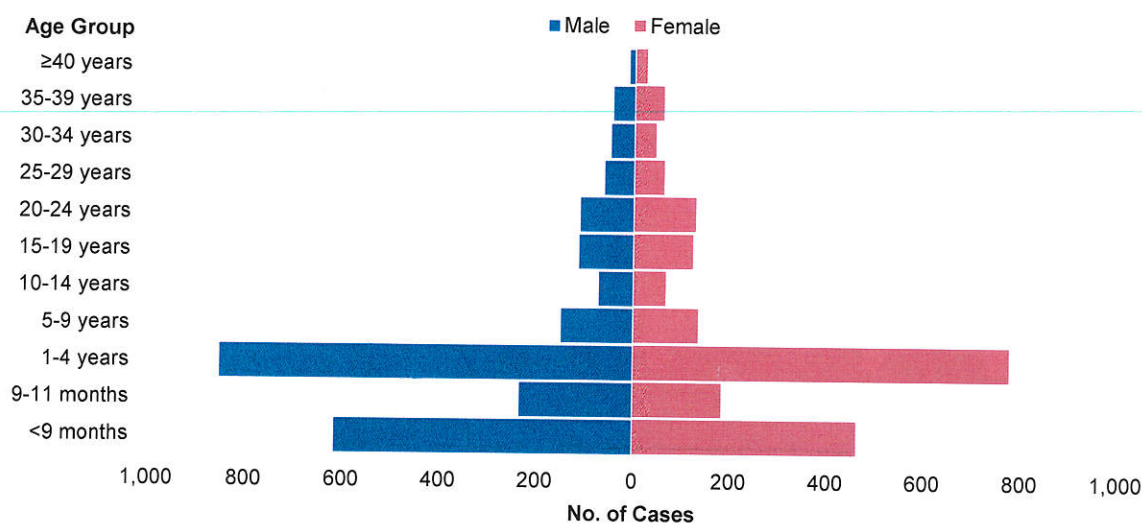
**Table 2. Confirmed Measles Cases by Region,**  
**Philippines, January 1 to November 24, 2018 (n=4,412) vs. January 1 to November 24, 2017**

Region	2018		2017		% Change
	Cases	Deaths	Cases	Deaths	
<b>PHL</b>	<b>4,412</b>	<b>57</b>	<b>502</b>	<b>12</b>	<b>↑ 779</b>
<b>I</b>	68	2	3	0	↑ 2,167
<b>II</b>	7	0	0	0	↑
<b>III</b>	226	4	49	2	↑ 361
<b>IVA</b>	454	6	12	0	↑ 3,683
<b>MIMAROPA</b>	7	0	0	0	↑
<b>V</b>	156	4	0	0	↑
<b>VI</b>	183	0	1	0	↑ 18,200
<b>VII</b>	142	0	3	0	↑ 4,633
<b>VIII</b>	23	1	0	0	↑
<b>IX</b>	319	1	283	4	↑ 13
<b>X</b>	268	1	4	0	↑ 6,600
<b>XI</b>	439	11	32	1	↑ 1,272
<b>XII</b>	419	4	7	1	↑ 5,886
<b>ARMM</b>	622	4	98	3	↑ 535
<b>CAR</b>	70	0	0	0	↑
<b>CARAGA</b>	77	1	2	0	↑ 3,750
<b>NCR</b>	932	18	8	1	↑ 11,550

### Profile of Confirmed Measles Cases

Majority (2,334, 53%) of the confirmed measles cases were male. Ages of cases ranged from **less than 1 month to 65 years** old (median age of 2 years). Age groups with the most number of cases were: 1-4 years old (1,629, 37%), less than 9 months old (1,079, 24%) and 9-11 months old (416, 9%) (Figure 7).

**Figure 7. Confirmed Measles Cases by Age Group and Sex,**  
**Philippines, January 1 to November 24, 2018 (n=4,412)\***



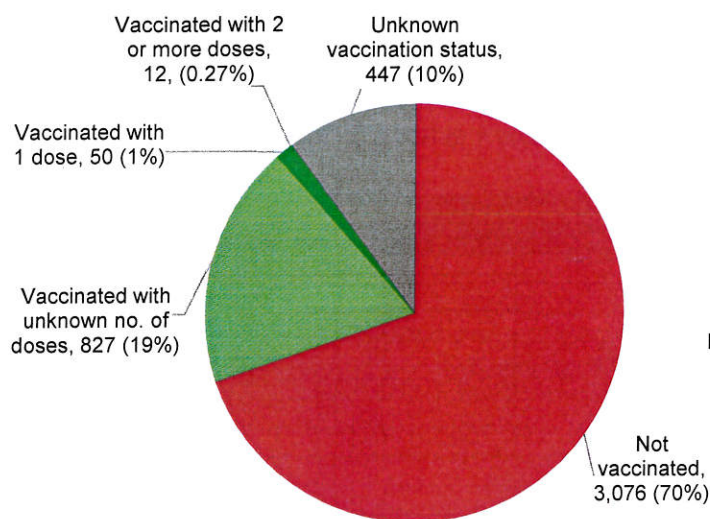
\*41 cases with unspecified age



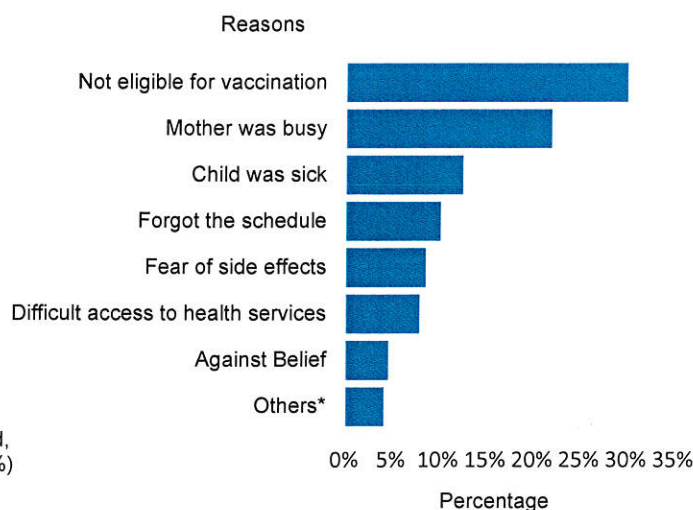


Majority (3,076, 70%) of the confirmed measles cases were not vaccinated (Figure 8). Top reasons for non-vaccination of measles-containing vaccine among confirmed cases were: not eligible for vaccination (30%), mother was busy (22%) and child was sick (13%) (Figure 9).

**Figure 8. Vaccination Status of Confirmed Measles Cases, Philippines, January 1 to November 24, 2018 (n=4,412)**



**Figure 9. Reasons for Non-vaccination of Measles Vaccine among Confirmed Measles Cases\*, Philippines, January 1 to November 24, 2018**



\*with available data

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

#### Profile of Confirmed Measles Deaths

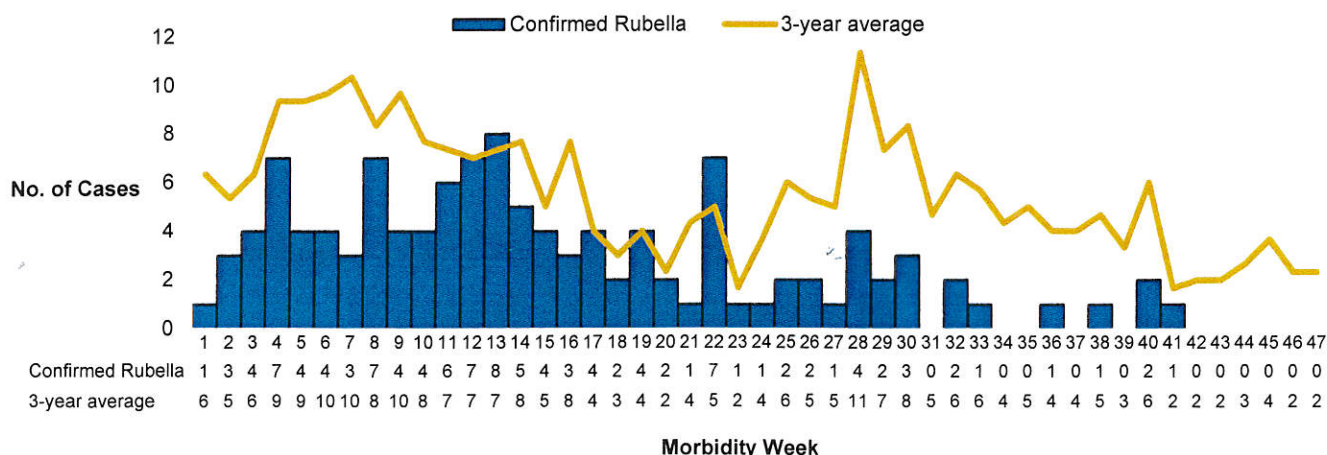
There were 57 deaths (CFR=1.29%) out of the 4,412 confirmed measles cases. Ages of deaths ranged from **2 months to 24 years** old (median age of 9 months). Age groups of these deaths were: less than 9 months old (20, 35%), 1-4 years old (18, 32%), 9-11 months old (15, 26%), 5-9 years old (2, 4%), 15-19 years old (1, 2%) and 20-24 years old (1, 2%). Majority (40, 70%) of the deaths had pneumonia complications. All died in the hospital with 0 to 28 days (median hospital days of 2 days) interval from date of admission to date of death.

#### Confirmed Rubella Cases

##### Trend in the Philippines

There were 118 confirmed rubella cases from January 1 to November 24, 2018. The distribution of confirmed rubella cases for 2018 compared to the 3-year average of cases from 2015-2017 is shown in Figure 10.

**Figure 10. Confirmed Rubella Cases by Morbidity Week, Philippines, January 1 to November 24, 2018 (n=118)**







### Geographic Distribution

Most of the confirmed rubella cases were from the following regions: Region XI (22, 19%), Region IVA (15, 13%), Region XII (13, 11%), NCR (11, 9%) and Region I (10, 8%). Confirmed rubella cases in 2018 is 75% lower compared to the same time period in 2017 (467). No deaths were reported (Table 3).

**Table 3. Confirmed Rubella Cases by Region, Philippines, January 1 to September 29, 2018 (n=105) vs. January 1 to September 29, 2017**

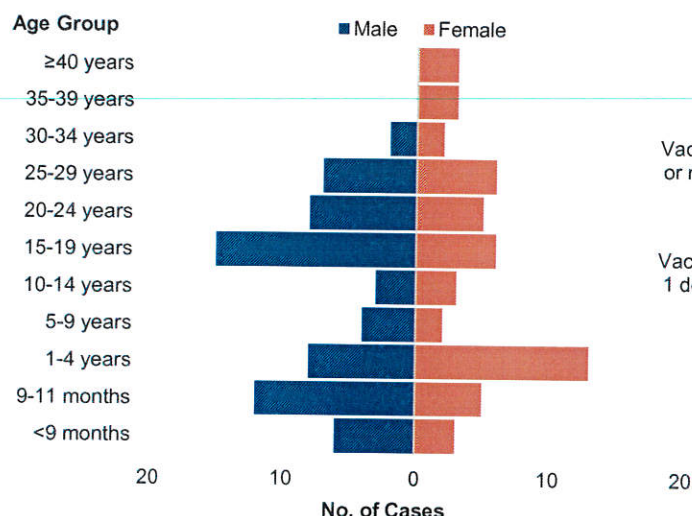
Region	2018		2017		% Change
	Cases	Deaths	Cases	Deaths	
<b>PHL</b>	<b>118</b>	<b>0</b>	<b>467</b>	<b>0</b>	<b>↓ 75</b>
I	10	0	35	0	↓ 71
II	2	0	6	0	↓ 67
III	7	0	48	0	↓ 85
IVA	15	0	105	0	↓ 86
MIMAROPA	2	0	3	0	↓ 33
V	1	0	4	0	↓ 75
VI	9	0	104	0	↓ 91
VII	7	0	5	0	↑ 40
VIII	1	0	40	0	↓ 98
IX	3	0	6	0	↓ 50
X	5	0	6	0	↓ 17
XI	22	0	5	0	↑ 340
XII	13	0	4	0	↑ 225
ARMM	2	0	1	0	↑ 100
CAR	2	0	59	0	↓ 97
CARAGA	6	0	1	0	↑ 500
NCR	11	0	35	0	↓ 69

### Profile of Confirmed Rubella Cases

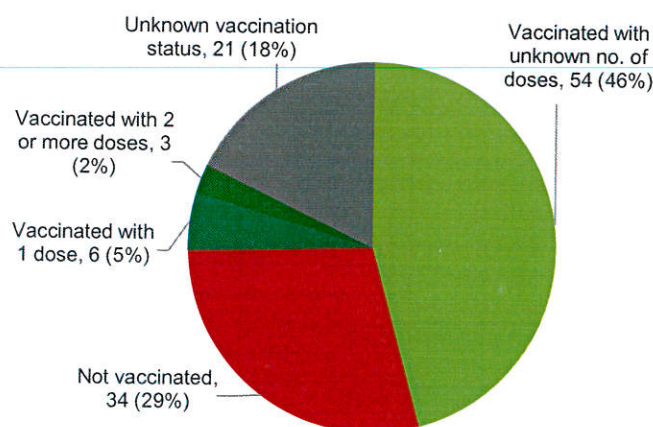
Majority (65, 55%) of the confirmed rubella cases were male. Ages of cases ranged from **less than 1 month to 63 years** old (median age of 14 years). Age groups with the most number of cases were: 1-4 years old (21, 18%) and 15-19 years old (21, 18%). There was one (1) reported pregnancy among the confirmed rubella cases, aged 26 years old from Region XI. The case is well monitored by a pediatrician and the Disease Reporting Unit. No abnormalities reported (Figure 11).

Most (54, 46%) of the confirmed rubella cases were vaccinated but with unknown number of doses. Only three (3) cases (3%) were reported to have two (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 November 24, 2018 (n=118)**



**Figure 12. Vaccination Status of Confirmed Rubella Cases, Philippines, January 1 to November 24, 2018 (n=118)**





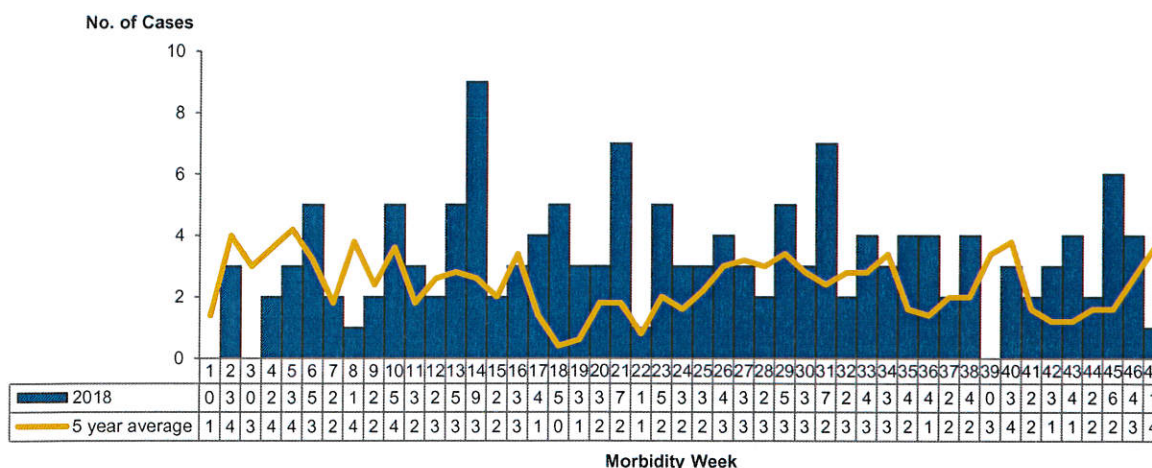


## II. DIPHTHERIA

### Trend in the Philippines

A total of **153** diphtheria cases were reported nationwide from January 1 to November 24, 2018. The distribution of diphtheria cases for 2018 compared to the 5-year average of cases from 2013 to 2017 is shown below (Figure 13).

**Figure 13. Reported Diphtheria Cases by Morbidity Week, Philippines, January 1 to November 24, 2018 (N=153)**



### Geographic Distribution

There has been an **12%** decrease of diphtheria cases from 173 cases in 2017 to 153 cases in 2018, same time period. Most of the reported diphtheria cases came from NCR (59, 36%) followed by Region 4A (23, 15%) and Region 3 (19, 12%) (Table 5). Fifty two (34%) cases were confirmed out of the reported cases. There were seven diphtheria clusters identified as of November 2018. A cluster is defined as two or more diphtheria cases from the same barangay reported within four consecutive weeks (Annex A).

**Table 5. Reported Diphtheria Cases by Region, Philippines, January 1 to November 24, 2018 (N=153) vs. January 1 to November 24, 2017**

REGION	2018		2017		PERCENT CHANGE
	CASES	DEATHS	CASES	DEATHS	
<b>PHILIPPINES</b>	<b>153</b>	<b>36</b>	<b>173</b>	<b>42</b>	<b>↓12</b>
I	2	1	4	0	↓50
II	0	0	1	1	↓100
III	19	6	19	5	0
IVA	23	4	33	5	↓30
MIMAROPA	0	0	2	1	↓100
<b>V</b>	<b>8</b>	<b>4</b>	<b>3</b>	<b>1</b>	<b>↑167</b>
VI	3	0	10	3	↓70
<b>VII</b>	<b>2</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>↑</b>
<b>VIII</b>	<b>2</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>↑</b>
IX	4	1	22	9	↓82
X	1	0	2	1	↓50
<b>XI</b>	<b>6</b>	<b>3</b>	<b>3</b>	<b>2</b>	<b>↑100</b>
<b>XII</b>	<b>3</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>↑200</b>
<b>ARMM</b>	<b>12</b>	<b>4</b>	<b>6</b>	<b>2</b>	<b>↑100</b>
CAR	1	0	4	0	↓75
<b>CARAGA</b>	<b>8</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>↑</b>
NCR	59	12	63	12	↓6



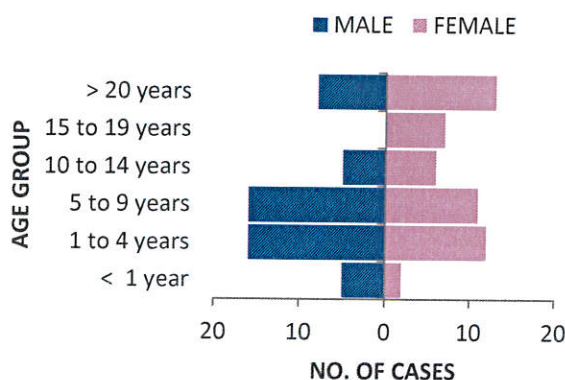


**Profile of Cases**

**A. Suspect cases**

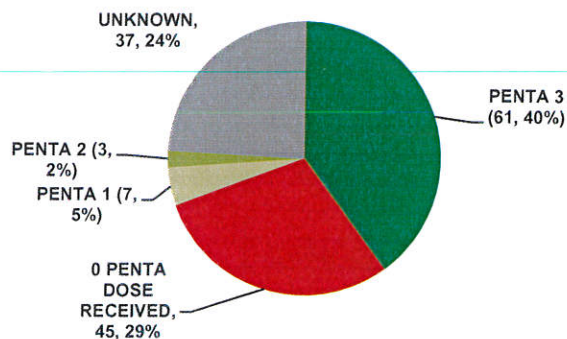
There were **50 males (50%)** and **51 females (50%)** among the reported diphtheria cases. Age of cases ranged from **3 months to 80 years old** (median age of 7 years). Age groups with the most number of cases were **1 - 4 years old (28, 29%)**, followed by **5 - 10 years old (27, 27%)**, and more than 20 years old (21, 21%) (Figure 14).

**Figure 14. Suspect Diphtheria Cases by Age Group and Sex, Philippines, January 1 to November 24, 2018 (N=101)**



Vaccination status showed that **(32, 32%)** of the reported cases received **complete 3 primary doses** of the DPT/Pentavalent vaccine. Twenty five (25%) did not receive a dose of the DPT/Pentavalent vaccine, 36 (36%) had unknown vaccination status, 6 (6%) received 1 dose while 2 (2%) received only 2 doses of the vaccine (Figure 15).

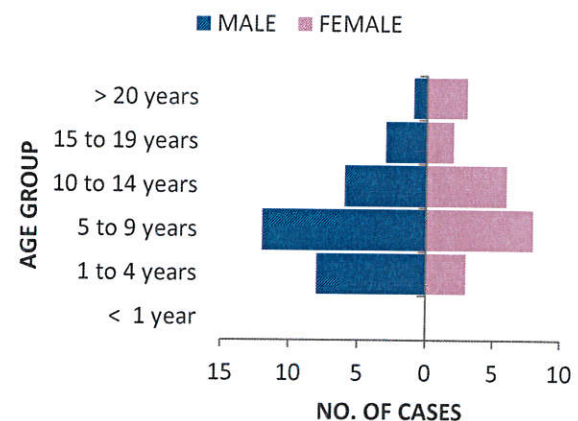
**Figure 15. Reported Diphtheria Cases by DPT Dose Received, Philippines, January 1 to November 24, 2018 (N=153)**



**B. Confirmed cases**

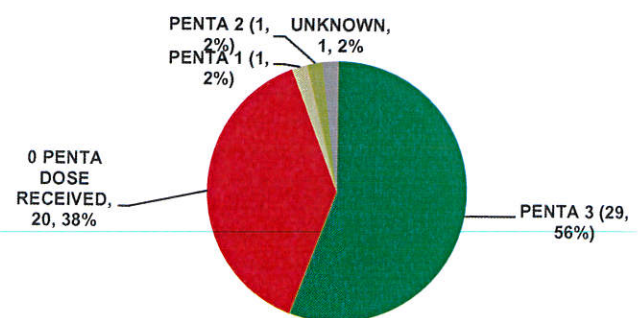
There were **22 females (42%)** and **30 males (58%)** among the confirmed diphtheria cases. Age of cases ranged from 1 to 32 years old (median age of 7 years). Age groups with the most number of cases were **5 - 9 years old (20, 38%)** and **10 - 14 years old (12, 23%)** (Figure 16).

**Figure 16. Confirmed Diphtheria Cases by Age Group and Sex, Philippines, January 1 to November 24, 2018 (n=52)**



Majority (29,56%) of the confirmed cases received **complete 3 primary doses** of the DPT/Pentavalent vaccine while 20 or 38% did not receive a dose of the DPT/Pentavalent vaccine. One (2%) had unknown vaccination status and 1 (2%) received only 2 doses of the vaccine. (Figure 17).

**Figure 17. Confirmed Diphtheria Cases by DPT Dose Received, Philippines, January 1 to November 24, 2018 (n=52)**



**Profile of Confirmed Diphtheria Deaths**

There were thirteen deaths (CFR=25%) among the 52 confirmed diphtheria cases. Ages of deaths ranged from **1 year to 8 years old** (median age of 6 years). Deaths came from the following age groups : **1- 4 years old (5, 38%)** and **6-9 years (8, 62%)**. Majority (7, 54%) did not receive a dose of the DPT/ Pentavalent vaccine while 5 (38%) received complete 3 primary doses of the vaccine.



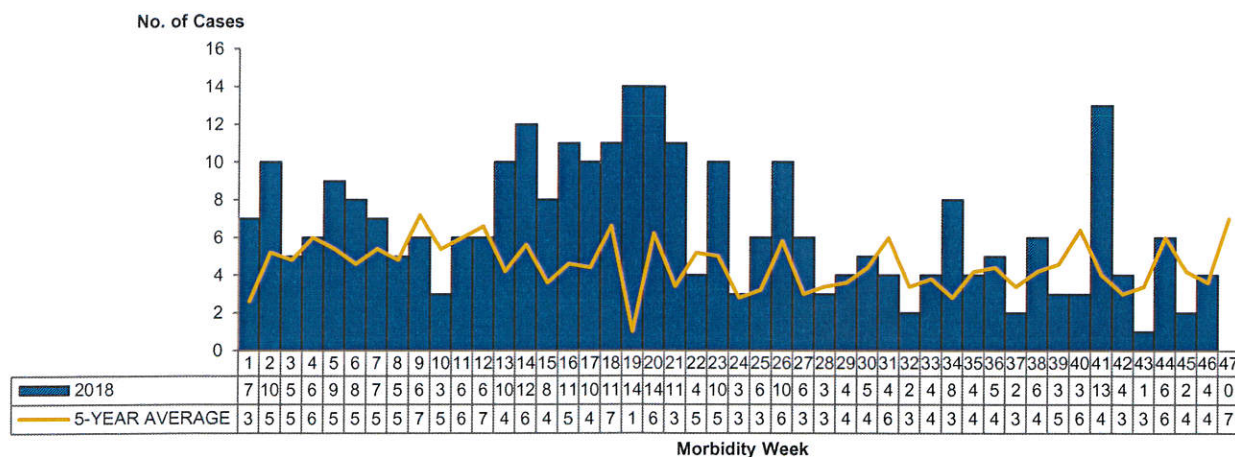


### III. PERTUSSIS

#### Trend in the Philippines

A total of 301 pertussis cases were reported nationwide from January 1 to November 24, 2018. The distribution of pertussis cases for 2018 compared to the 5-year average of cases from 2013 to 2017 is shown below (Figure 18).

**Figure 18. Reported Pertussis Cases by Morbidity Week, Philippines, January 1 to November 24, 2018 (N=301)**



#### Geographic Distribution

There has been an 5% decrease among the reported pertussis cases with 316 cases in 2017 and 301 cases in 2018, same time period. Majority of the reported pertussis cases came from NCR (83, 28%) followed by Region XI (41, 14%) and Regions III and IVA (38 each, 13%) (Table 6). Seventy three (24%) cases were confirmed out of 301 cases. Nineteen pertussis clusters were identified as of November 2018. A cluster is defined as two (2) or more pertussis cases from the same barangay reported within four (4) consecutive weeks (Annex B).

**Table 6. Reported Pertussis Cases by Region, Philippines, January 1 to November 24, 2018 (N=301) vs. January 1 to November 24, 2017**

REGION	2018		2017		PERCENT CHANGE
	CASES	DEATHS	CASES	DEATHS	
<b>PHILIPPINES</b>	<b>301</b>	<b>9</b>	<b>316</b>	<b>17</b>	<b>↓5</b>
I	5	1	5	0	0
II	5	2	15	2	↓67
III	38	1	38	4	0
IVA	38	1	73	7	↓48
MIMAROPA	1	0	1	0	0
V	3	0	3	0	0
VI	7	0	7	0	0
VII	23	1	17	0	↑35
VIII	3	0	2	0	↑50
IX	1	0	2	0	↓50
X	9	0	7	0	↑29
XI	41	2	36	1	↑14
XII	2	0	6	0	↓67
ARMM	9	0	3	0	↑200
CAR	27	1	4	0	↑575
CARAGA	6	0	8	0	↓25
NCR	83	0	89	3	↓7



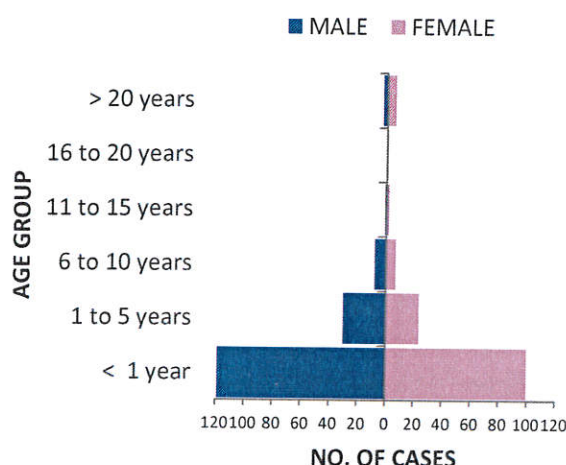


**Profile of Cases**

**A. Suspect cases**

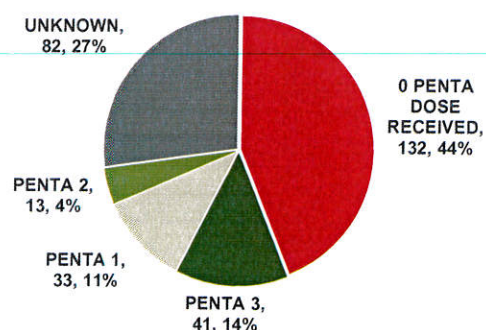
There were **161 (53%) males** and **140 (47%) females** among the reported pertussis cases. Age of cases ranged from **9 days to 77 years old** (median age of 3 months). Age groups with most number of cases were **less than 1 year** (219, 73%), followed by those from the 1 to 5 years (54, 18%), and 6 to 10 years old (15, 5%) group (Figure 19).

**Figure 19. Reported Pertussis Cases by Age Group and Sex, Philippines, January 1 to November 24, 2018 (N=301)**



Majority of the reported cases (**132, 44%**) were **not vaccinated** with the DPT/pentavalent vaccine. Eighty two cases (27%) had unknown vaccination status, 41 (14%) received complete 3 primary doses, 33 (11%) received only 1 dose while the remaining 13 cases (4%) received only 2 doses of the vaccine (Figure 20).

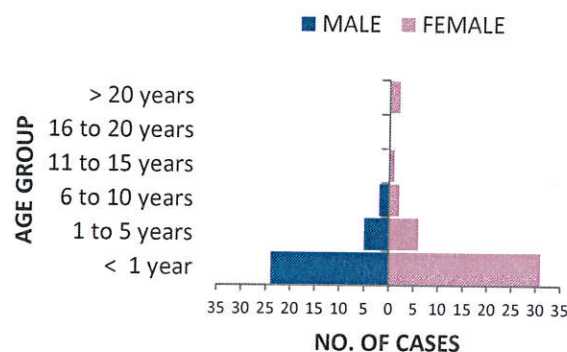
**Figure 20. Reported Pertussis Cases by DPT Dose Received, Philippines, January 1 to November 24, 2018 (N=301)**



**B. Confirmed cases**

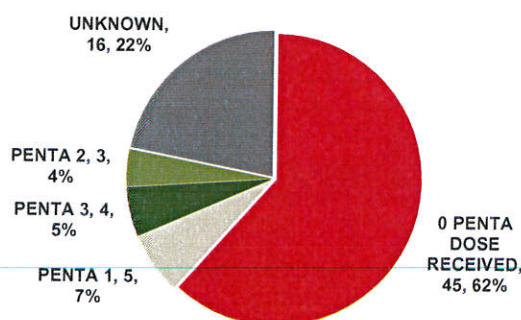
There were **42 females (58%)** and **31 males (42%)** among the confirmed pertussis cases. Age of cases ranged from **13 days to 34 years old** (median age of 2 months). Age groups with the most number of cases were **less than 1 year** (55, 75%), followed by those 1 to 5 years (11, 15%) and 6 to 10 years old (4, 6%) (Figure 21).

**Figure 21. Confirmed Pertussis Cases by Age Group and Sex, Philippines, January 1 to November 24, 2018 (n=73)**



Majority (**45, 62%**) of the confirmed cases were **not vaccinated** with the DPT/Pentavalent vaccine. Sixteen (16) or 22% had an unknown vaccination status, 5 (7%) received 1 dose, 4 (5%) received complete 3 primary doses while the remaining 3 cases (4%) received only 2 doses. (Figure 22).

**Figure 22. Confirmed Pertussis Cases by DPT Dose Received, Philippines, January 1 to November 24, 2018 (n=73)**



**Profile of Confirmed Pertussis Deaths**

There were **5 deaths (CFR=7%)** among the 73 confirmed pertussis cases. Ages of deaths ranged from **1 month to 4 years old** (median age of 2 months). Deaths came from the following age groups : less than 1 year (3, 60%) and 1 – 5 years (2, 40%). Four (80%) of the confirmed pertussis deaths did not receive any dose of the DPT/pentavalent vaccine while 1 (20%) had unknown vaccination status.



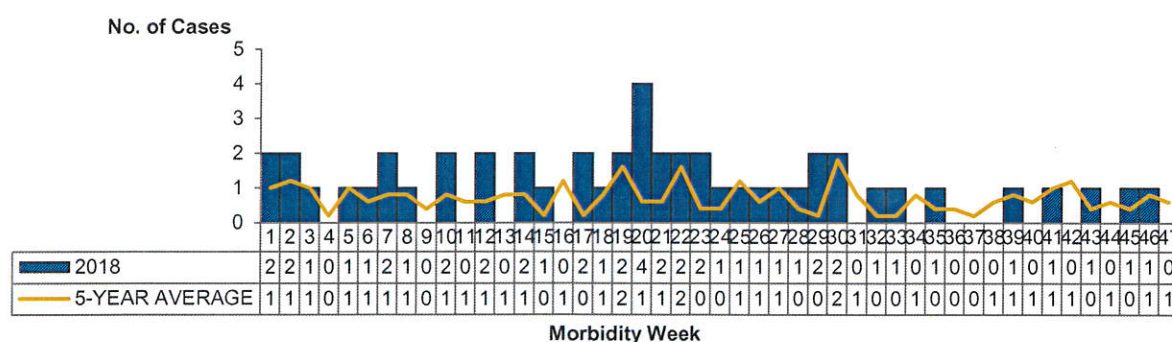


#### IV. NEONATAL TETANUS

##### Trend in the Philippines

A total of **forty nine (49)** clinically confirmed neonatal tetanus (NT) cases were reported nationwide from January – November 2018. The distribution of neonatal tetanus cases for 2018 compared to the 5-year average of cases from 2013 to 2017 is shown below (Figure 23).

**Figure 23. Neonatal Tetanus Cases by Morbidity Week, Philippines, January 1 to November 24, 2018 (N=49)**



##### Geographic Distribution

There has been a **41%** decrease of reported neonatal tetanus cases from 83 cases in 2017 to 49 cases in 2018, same time period. **ARMM** reported the most number of cases (**14, 29%**), followed by Region XII with 8 cases (16%) (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 November 24, 2018 (N=44) vs. January 1 to November 24, 2017**

REGION	2018			2017		
	Cases	NT rate (per 1,000 livebirths)	Deaths	Cases	NT rate (per 1,000 livebirths)	Deaths
<b>PHL</b>	<b>49</b>	<b>0.02</b>	<b>29</b>	<b>83</b>	<b>0.03</b>	<b>55</b>
I	1	0.01	0	2	0.01	2
II	1	0.01	0	3	0.03	3
III	2	0.01	2	4	0.01	3
IVA	3	0.01	2	4	0.01	2
MIMAROPA	0	0.00	0	9	0.11	7
V	0	0.00	0	4	0.02	3
VI	3	0.01	3	5	0.02	4
VII	1	0.00	1	3	0.01	3
VIII	2	0.02	1	3	0.02	3
IX	3	0.03	2	1	0.01	1
X	6	0.05	3	4	0.03	1
XI	0	0.00	0	1	0.01	0
XII	8	0.06	4	11	0.09	7
ARMM	14	0.13	8	24	0.22	12
CAR	0	0.00	0	0	0.00	0
CARAGA	3	0.04	2	2	0.03	2
NCR	2	0.01	1	3	0.01	2



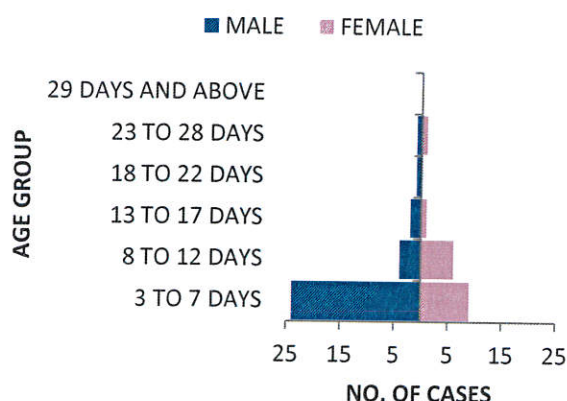


**Profile of Cases**

**A. Age group and Sex**

Among the clinically-confirmed NT cases, 32 (65%) were **male**. Age of the cases ranged from **3 to 27 days old** (median age of 6 days). More than half of the cases were from the **3 to 7 day age group** (33, 67 %), followed by cases 8 to 12 days old (10, 20%) (Figure 24).

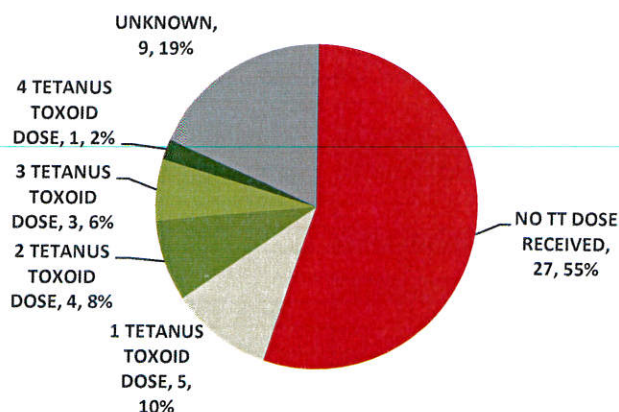
**Figure 24. Clinically Confirmed Neonatal Tetanus Cases by Age Group and Sex, Philippines, January 1 to November 24, 2018 (N=49)**



**B. Vaccination Status**

Twenty seven (55%) of the mothers of clinically confirmed cases **did not receive any dose of the tetanus toxoid vaccine**, followed by those with unknown vaccination status (9, 19%). Five (10%) received only 1 dose, 4 (8%) received 2 doses, 3 (6%) received 3 doses while the remaining 1 (2%) case received 4 doses (Figure 25).

**Figure 25. Clinically Confirmed Neonatal Tetanus Cases by Vaccination Status, Philippines, January 1 to November 24, 2018 (N=49)**



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

In terms of delivery practices, 44 (90%) of the neonatal tetanus cases were delivered at home. Thirty four (69%) of the cases were attended by a hilot. Seventeen (35%) cases had scissors as the common cord cutting tool used. Umbilical stump treatment of majority of the NT cases was alcohol (24, 49%) (Table 8).

**Table 8. Delivery Practices of Clinically Confirmed Neonatal Tetanus Cases, Philippines, January 1 to November 24, 2018 (N=49)**

Delivery Practices	No. of Cases	Percentage
<b>Place of Delivery</b>		
Home	44	90%
Hospital/Lying-In/Clinic	2	4%
Others	3	6%
<b>Delivery Attendant</b>		
Hilot	34	69%
Lay Person	6	12%
Midwife	4	8%
Nurse	1	2%
Unknown	4	8%
<b>Cord Cut Tool Used</b>		
Scissors	17	35%
Bamboo	14	29%
Blade	12	24%
Sharpened Wood	1	2%
Unknown	5	10%
<b>Stump Treatment Used</b>		
Alcohol	24	49%
None	4	8%
Cloth	1	2%
Cooking oil	1	2%
Powder	1	2%
Water	1	2%
Cotton	1	2%
Unknown	16	33%

**Profile of Neonatal Tetanus Deaths**

There were 29 deaths (CFR=59%) among the 49 neonatal tetanus cases. Ages of deaths ranged from 3 days to 27 days old (median age of 6 days). Deaths came from the following age groups : 3-7 days old (19, 66%), 8 – 12 days (6, 21%) and 13-17 days (2, 7%). Majority (19, 65%) did not receive a dose of the tetanus toxoid vaccine. Six (21%) had unknown vaccination status, 2 (7%) received 2 doses while those that received 1 dose and 3 doses had 1 case each (3%).





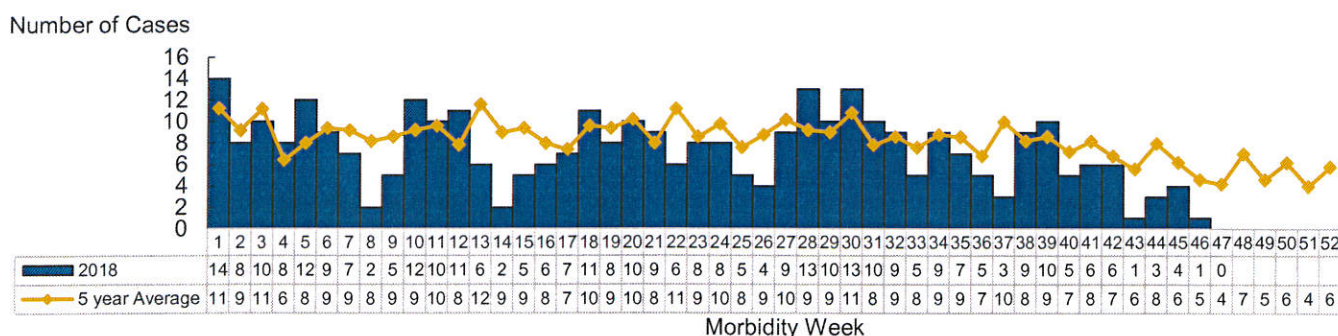
## V. ACUTE FLACCID PARALYSIS

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 **341 AFP** cases were reported nationwide from January 1 to November 24, 2018. The distribution of AFP cases for 2018 compared to the 5-year average of cases from 2013 to 2017 is shown below (Figure 26).

**Figure 26. Trend of Reported AFP Cases (N=341)**  
**Philippines, January 1 to November 24, 2018**



### Geographic Distribution

A total of 341 AFP cases were reported from January to November 24, 2018; while 461 AFP cases were reported during the same time period last year. Among the 341 reported AFP cases, 237 (70%) were discarded as non-polio AFP, while 50 (14%) are still pending for 60 day follow-up, expert panel review and for official laboratory result. There were 54 (16%) reported cases that did not fit the case definition and were classified as not AFP. For this period, the non-polio AFP rate\* is 0.73 which nearly reached the target indicator of 1/100,00 children under 15 years old (Table 9).

**Table 9. Reported AFP Cases by Region and Classification**  
**January 1 to November 24, 2018 vs. January 1 to November, 2017**

Region	2018					2017	
	No. of Cases (A)	Discarded as non-polio (B)	Pending (C)	Not AFP (D)	Non-polio AFP Rate (E)	No. of Cases (F)	Non-polio AFP Rate (G)
<b>PHL</b>	<b>341</b>	<b>237</b>	<b>50</b>	<b>54</b>	<b>0.84</b>	<b>461</b>	<b>1.13</b>
I	18	12	2	4	0.90	54	2.82
II	8	6	1	1	0.65	20	1.46
III	46	33	9	4	1.10	58	1.12
IVA	42	26	5	11	0.66	59	0.90
MIMAROPA	6	5	1	0	0.55	5	0.40
V	25	20	3	2	1.09	28	1.20
VI	35	28	4	3	1.40	34	1.93
VII	26	19	6	1	0.91	14	0.70
VIII	18	10	4	4	0.75	20	0.87
IX	13	12	0	1	1.11	16	1.04
X	11	4	0	7	0.28	23	1.07
XI	22	13	3	6	0.92	30	1.43
XII	15	12	0	3	0.90	28	1.60
ARMM	7	3	3	1	0.21	7	0.40
CAR	11	8	3	0	1.60	7	1.03
CARAGA	8	6	2	0	0.80	6	0.65
NCR	30	20	4	6	0.65	52	0.91

**Note:** \*Non-polio AFP Rate is an indicator which measures the sensitivity of surveillance. To meet the minimum level for a polio-free certification, at least one case of non-polio AFP should be detected annually per 100,000 population aged less than 15 years (1/100,000 of children under 15 years old). In endemic regions, to ensure even higher sensitivity, this rate should be two per 100,000. **Cases classified as NOT AFP are excluded from the non-polio AFP rate computation.**



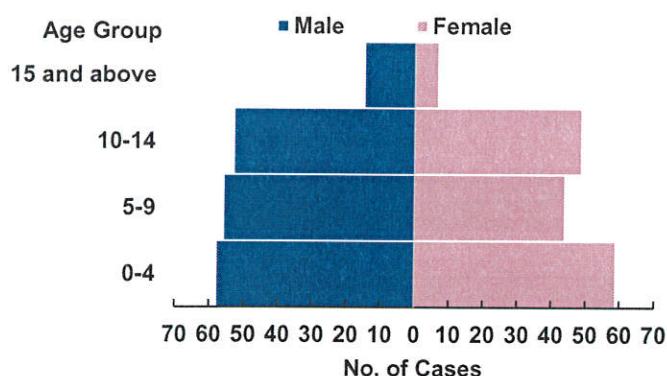


## Profile of Cases

### A. Age group and Sex

One hundred eighty two (182,53%) are males. Age ranges from < 1 month to 55 years (median age of 7 years old). One hundred seventeen (117,34%) of the AFP cases reported belong to 0-4 age group (Figure 27).

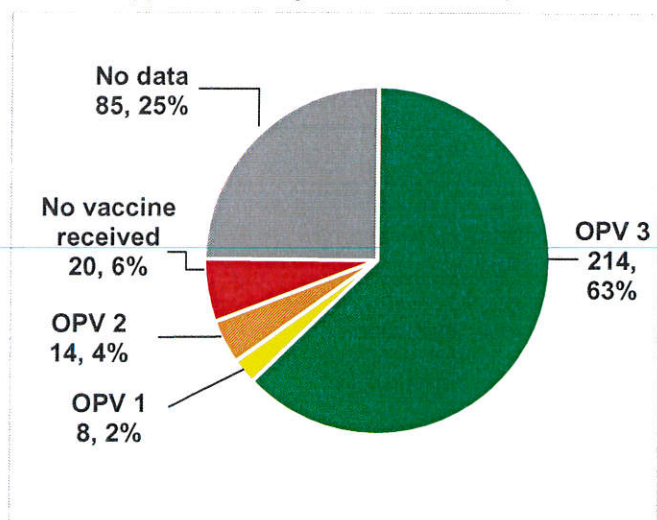
**Figure 27. AFP Cases by Sex and Age Group (N=341) Philippines, January 1 to November 24, 2018**



### B. Vaccination Status

Among the 341 reported AFP cases, 214 (63%) completed 3 doses of OPV. Eighty-five (25%) had no data (Figure 28).

**Figure 28. Vaccination Status of AFP Cases (N=341) Philippines, January 1 to November 24, 2018**



### C. Laboratory Status

There were no isolated wild or vaccine-derived poliovirus from January 1 to November 24. Stool 1 was collected in 299 (88%) AFP cases and stool 2 in 276 (81%) of AFP cases. Three cases had poliovirus Sabin-like type 1 and 3 isolated (Table 10).

**Table 10. Laboratory Status of Reported AFP Cases (N=341) Philippines, January 1 to November 24, 2018**

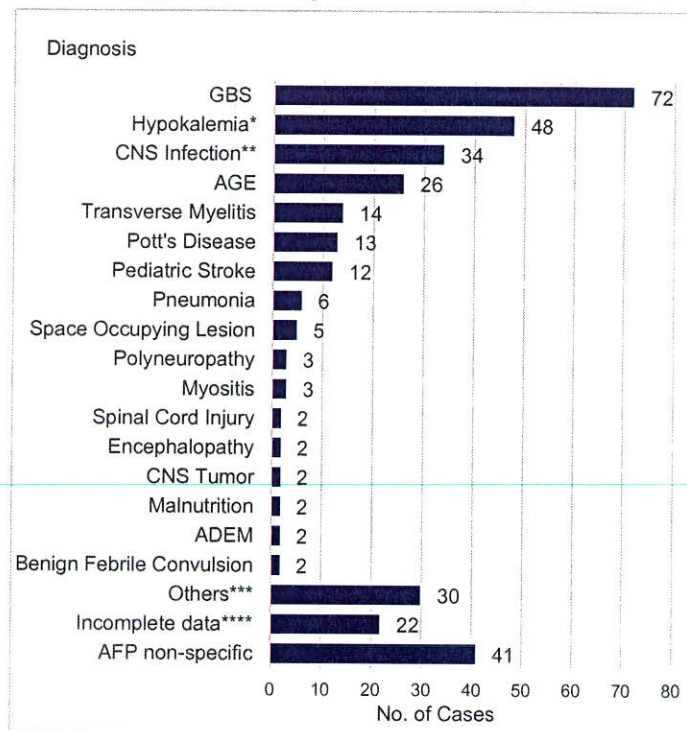
Stool Specimen Result	Stool Specimen 1		Stool Specimen 2	
<b>Total</b>	<b>299</b>	<b>88%</b>	<b>276</b>	<b>81%</b>
Negative for poliovirus	277	93%	252	91%
Others				
Poliovirus (Sabin-Like)*	2	1%	3	1%
Non-polio enterovirus (NPEV)	10	3%	8	3%
Pending Lab Results	10	3%	13	5%

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

### D. Differential Diagnosis

The top diagnosis among AFP cases reported were Guillain Barre Syndrome or GBS (72, 21%), Hypokalemia\* (48,14%) and CNS Infection\*\* (34,10%) (Figure 29).

**Figure 29. AFP Cases by Differential Diagnosis (N=341) Philippines, January 1 to November 24, 2018**



\*Includes Hypokalemic Periodic Paralysis and Electrolyte Imbalance

\*\*Includes Bacterial Meningitis, TB Meningitis, Aseptic Meningitis

\*\*\*Others : Acute Infarction, Acute Lower Motor Neuron Disease, Acute Tenosynovitis, Cardiac Arrhythmia, Cerebellar Ataxia, Epilepsy, Ileus, Azotemia, Suspect Leptospirosis, Lower Motor Weakness, Malnutrition, Rheumatic Fever, Juvenile Rheumatoid Arthritis, SVI, TB Arthritis, Urinary Retention, UTI

\*\*\*\*For verification





**ANNEX A. CLUSTER OF DIPHTHERIA CASES**

MORBIDITY WEEK	REGION	PROVINCE	MUNCITY	BARANGAY	CASES	
					CONFIRMED	SUSPECT
14	4A	CAVITE	DASMARIÑAS	LUZVIMINDA I	0	2
14-15	NCR	METRO MANILA	MANILA	BARANGAY 533	2	0
16-17	NCR	METRO MANILA	CALOOCAN CITY	BARANGAY 166	2	0
17-19	ARMM	BASILAN	MALUSO	TOWNSITE (POB.)	0	3
25-26	5	ALBAY	LEGAZPI CITY	BGY. 53 - BONGA (BGY. 48)	0	2
30	NCR	METRO MANILA	QUEZON CITY	GULOD	2	1

**ANNEX B. CLUSTER OF PERTUSSIS CASES**

MORBIDITY WEEK	REGION	PROVINCE	MUNCITY	BARANGAY	CASES	
					CONFIRMED	SUSPECT
7-10	2	CAGAYAN	BALLESTEROS	FUGU	1	1
15-19	CAR	BENGUET	ITOGON	LOACAN	6	5
16-17	CAR	BENGUET	BOKOD	DACLAN	1	1
16-18	NCR	METRO MANILA	QUEZON CITY	COMMONWEALTH	1	2
18-20	8	LEYTE	PASTRANA	CALSADAHAY	0	2
18-19	11	DAVAO DEL SUR	DAVAO CITY	MALAMBA	1	1
19-22	NCR	METRO MANILA	QUEZON CITY	TATALON	0	2
19-22	CAR	BAGUIO	BAGUIO CITY	BAKAKENG CENTRAL	3	0
20	NCR	METRO MANILA	QUEZON CITY	HOLY SPIRIT	0	2
20	11	DAVAO DEL SUR	DAVAO CITY	BARANGAY 23-C (POB.)	0	2
22-23	CAR	BENGUET	LA TRINIDAD	BALILI	2	0
23	3	PAMPANGA	ANGELES CITY	CUTCUT	0	2
24-27	11	DAVAO DEL SUR	DAVAO CITY	TALOMO (POB.)	0	3
24	CAR	APAYAO	LUNA	CALABIGAN	2	0
28-31	11	DAVAO DEL SUR	DAVAO CITY	CABANTIAN	0	2
33-35	NCR	METRO MANILA	QUEZON CITY	COMMONWEALTH	0	2
37-38	11	DAVAO DEL SUR	DAVAO CITY	CATALUNAN GRANDE	0	3
41	10	BUKIDNON	LANTAPAN	POBLACION	0	2