



## 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 August 25, 2018 or Morbidity Weeks 1 - 34 (Table 1).

**Table 1. Summary of Reported Vaccine Preventable Diseases, Philippines, January 1 – August 25, 2018**

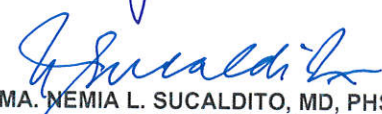
| Vaccine Preventable Diseases | Total No of Cases | Confirmed Cases |        |       |
|------------------------------|-------------------|-----------------|--------|-------|
|                              |                   | Cases           | Deaths | CFR % |
| Measles                      | 13,258            | 2,338           | 30     | 1.28  |
| Rubella                      |                   | 100             | 0      | -     |
| Diphtheria                   | 107               | 36              | 9      | 25    |
| Pertussis                    | 231               | 68              | 5      | 7.35  |
| Neonatal Tetanus             | 39                | 39              | 23     | 58.97 |
| Polio (AFP Surveillance)     | 246               | -               | -      | -     |

### 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<br>- no adequate blood specimen was taken, OR<br>- is not an epidemiological link to a confirmed case of measles or rubella, OR<br>- 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:<br>- paroxysms (i.e. fits) of coughing<br>- inspiratory "whooping"<br>- post-tussive vomiting (i.e. vomiting immediately after coughing)<br>- 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<br>A person of any age in whom poliomyelitis is suspected by the physician<br><b>AFP "hotcase"</b> An AFP case with no or less than 3 OPV dose and had FEVER at onset of paralysis  |

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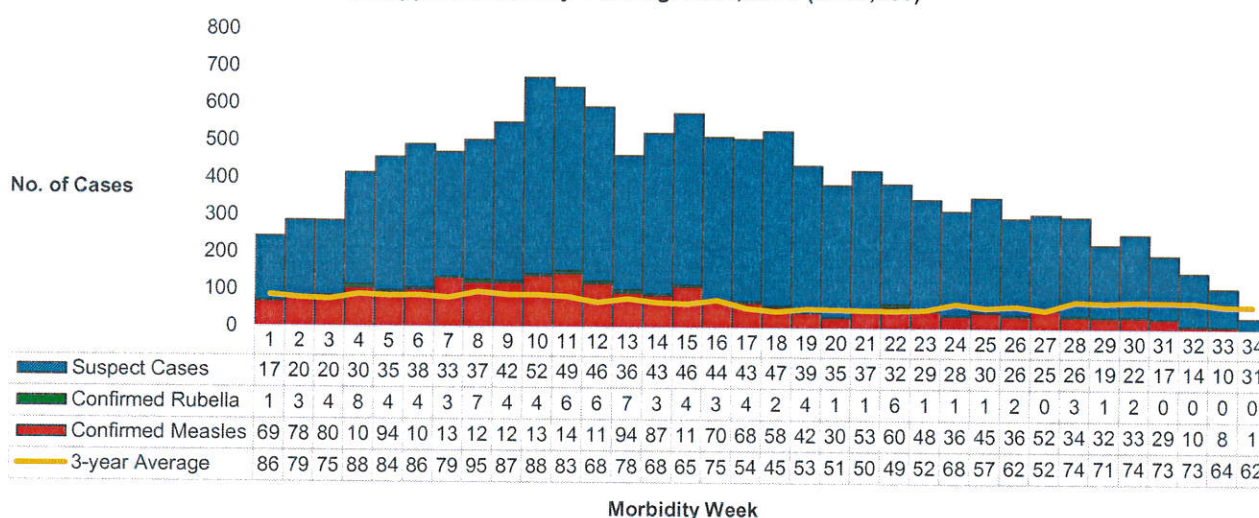
## I. MEASLES-RUBELLA

### Suspect Cases

#### Trend in the Philippines

A total of 13,258 suspect measles-rubella cases were reported from January 1 to August 25, 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 August 25, 2018 (N=13,258)**



\*laboratory-confirmed and epidemiologically-linked measles cases

#### Geographic Distribution

From January 1 to August 25, 2018 or morbidity weeks 1 to 34, cases are 419% higher than the number of cases reported during the same time period last year (2,554). Most of the reported cases were from the following regions: ARMM (3,576, 27%), NCR (1,831, 14%), Region XI (1,375, 10%), Region XII (1,266, 10%) and Region IX (1,253, 9%) (Table 1).

**Table 1. Reported Measles-Rubella Cases by Region, Philippines, January 1 to August 25, 2018 (N=13,258) vs. January 1 to August 25, 2017**

| Region     | 2018          |            | 2017         |          | % Change     |
|------------|---------------|------------|--------------|----------|--------------|
|            | Cases         | Deaths     | Cases        | Deaths   |              |
| <b>PHL</b> | <b>13,258</b> | <b>114</b> | <b>2,554</b> | <b>9</b> | <b>↑ 419</b> |
| I          | 251           | 0          | 327          | 1        | ↓ 23         |
| II         | 56            | 0          | 43           | 0        | ↑ 30         |
| III        | 518           | 6          | 269          | 1        | ↑ 93         |
| IVA        | 858           | 6          | 461          | 3        | ↑ 86         |
| MIMAROPA   | 40            | 0          | 40           | 0        | 0            |
| V          | 169           | 1          | 54           | 0        | ↑ 213        |
| VI         | 247           | 0          | 237          | 0        | ↑ 4          |
| VII        | 269           | 1          | 42           | 0        | ↑ 540        |
| VIII       | 69            | 4          | 74           | 0        | ↓ 7          |
| IX         | 1,253         | 8          | 128          | 0        | ↑ 879        |
| X          | 1,174         | 2          | 118          | 0        | ↑ 895        |
| XI         | 1,375         | 18         | 52           | 0        | ↑ 2,544      |
| XII        | 1,266         | 11         | 66           | 0        | ↑ 1,818      |
| ARMM       | 3,576         | 31         | 178          | 4        | ↑ 1,909      |
| CAR        | 86            | 0          | 163          | 0        | ↓ 47         |
| CARAGA     | 220           | 0          | 38           | 0        | ↑ 479        |
| NCR        | 1,831         | 26         | 264          | 0        | ↑ 594        |

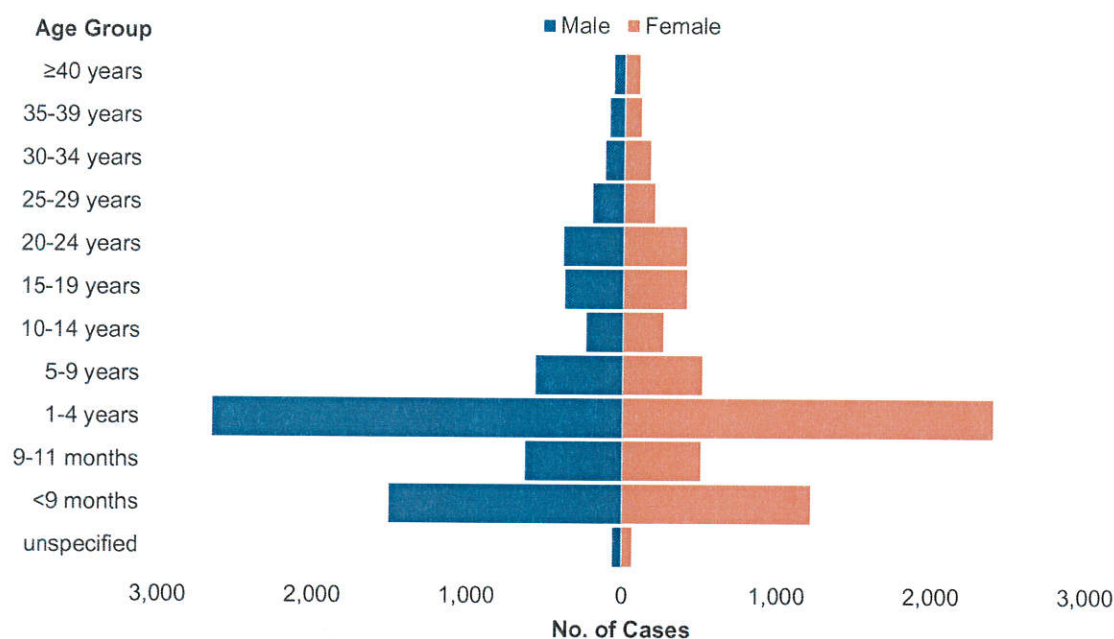




### Profile of Reported Cases

Majority (6,912 , 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 (5,053, 38%), less than 9 months old (2,728, 21%) and 9-11 months old (1,134, 9%) (Figure 2).

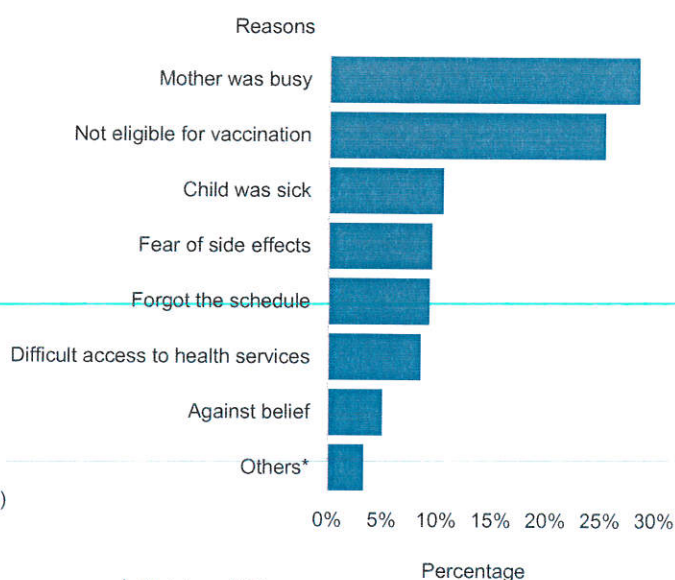
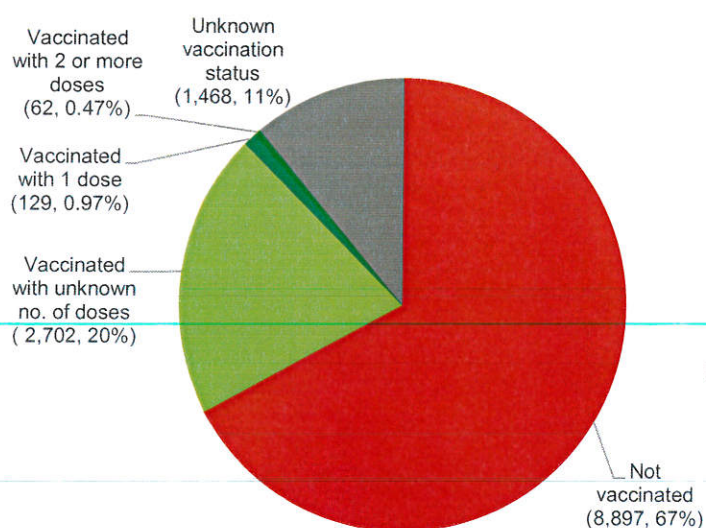
**Figure 2. Reported Measles-Rubella Cases by Age Group and Sex, Philippines, January 1 to August 25, 2018 (N=13,258)**



Majority (8,897 , 67%) of the cases were not vaccinated (Figure 3). Top reasons for non-vaccination of measles-containing vaccine were: mother was busy (29%), not eligible for vaccination (25%) and child was sick (10%) (Figure 4).

**Figure 3. Vaccination Status of Reported Measles-Rubella Cases, Philippines, January 1 to August 25, 2018 (N=13,258)**

**Figure 4. Reasons for Non-vaccination of Measles Vaccine\*, Philippines, January 1 to August 25, 2018**



\*with data available

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

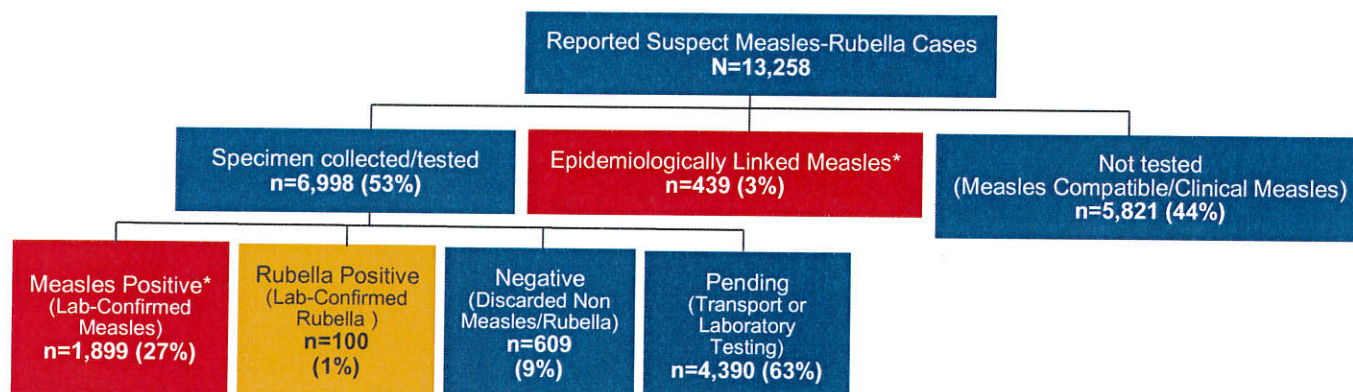




### Case Classification

Among the 13,258 reported cases, a total of 6,998 (53%) cases had specimens collected/tested for measles/rubella IgM and/or PCR. Among the tested cases, 1,899 (27%) were positive for measles and 100 (1%) were positive for rubella. Four hundred thirty-nine (3%) 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 August 25, 2018, 2018 (N=13,258)**



\*Confirmed measles cases = laboratory-confirmed and epidemiologically-linked measles cases (N= 2,338)

### Confirmed Measles Cases

#### Trend in the Philippines

There were 2,338 confirmed measles cases with 30 deaths (CFR=1.28%). The distribution of confirmed measles cases for 2018 compared to the 3-year average of cases from 2015-2017 is shown in Figure 6.

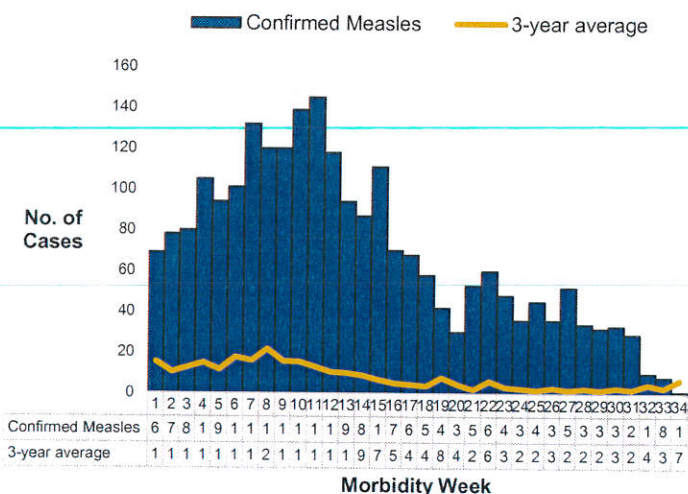
#### Geographic Distribution

Most of the confirmed measles cases were from the following regions: ARMM (454, 19%), NCR (393, 17%), Region XI (280, 12%), Region XII (256, 11%) and Region IX (211, 9%). Confirmed measles cases in 2018 increased by 2,786% compared to the same period in 2017 (Table 2).

Top 5 provinces with confirmed cases include: Lanao del Sur (280, 12%), Davao del Sur (193, 8%), Maguindanao (139, 6%), Zamboanga del Sur (117, 5%), and Rizal (89, 4%)

Top 5 municipalities with confirmed cases include: Davao City (179, 8%), Manila (101, 4%), Zamboanga City (88, 4%), Cotabato City (87, 4%), and Taguig City (84, 4%).

**Figure 6. Confirmed Measles Cases by Morbidity Week, Philippines, January 1 to August 25, 2018 (n=2,338)**



**Table 2. Confirmed Measles Cases by Region, Philippines, January 1 to August 25, 2018 (n=2,338) vs. January 1 to August 25, 2017**

| Region   | 2018  |        | 2017  |        | Percent Change |
|----------|-------|--------|-------|--------|----------------|
|          | Cases | Deaths | Cases | Deaths |                |
| PHL      | 2,338 | 30     | 81    | 1      | ↑ 2,786        |
| I        | 24    | 0      | 3     | 0      | ↑ 700          |
| II       | 5     | 0      | 0     | 0      | -              |
| III      | 118   | 3      | 14    | 1      | ↑ 743          |
| IVA      | 120   | 1      | 10    | 0      | ↑ 1,100        |
| MIMAROPA | 5     | 0      | 0     | 0      | -              |
| V        | 69    | 1      | 0     | 0      | -              |
| VI       | 64    | 0      | 1     | 0      | ↑ 6,300        |
| VII      | 108   | 0      | 1     | 0      | ↑ 10,700       |
| VIII     | 17    | 1      | 0     | 0      | -              |
| IX       | 211   | 0      | 33    | 0      | ↑ 539          |
| X        | 152   | 1      | 3     | 0      | ↑ 4,967        |
| XI       | 280   | 8      | 1     | 0      | ↑ 27,900       |
| XII      | 256   | 2      | 1     | 0      | ↑ 25,500       |
| ARMM     | 454   | 2      | 9     | 0      | ↑ 4,944        |
| CAR      | 13    | 0      | 0     | 0      | -              |
| CARAGA   | 49    | 0      | 1     | 0      | ↑ 4,800        |
| NCR      | 393   | 11     | 4     | 0      | ↑ 9,725        |

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).

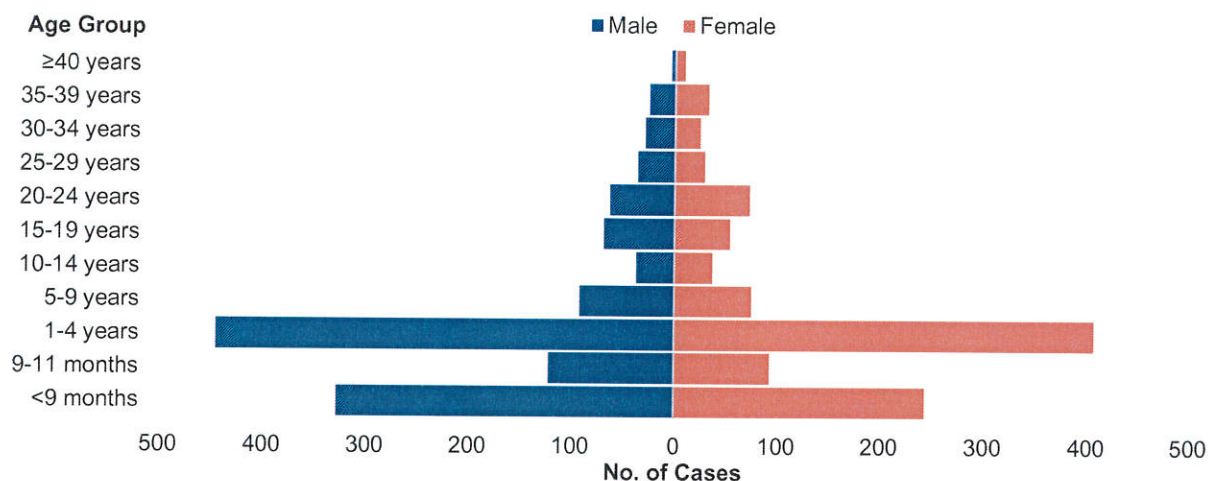




### Profile of Confirmed Measles Cases

Majority (1,260, 54%) of the confirmed measles cases were male. Ages of cases ranged from **less than 1 month to 46 years** old (median age of 2 years). Age groups with the most number of cases were: 1-4 years old (852, 36%), less than 9 months old (572, 24%) and 9-11 months old (215, 9%) (Figure 7).

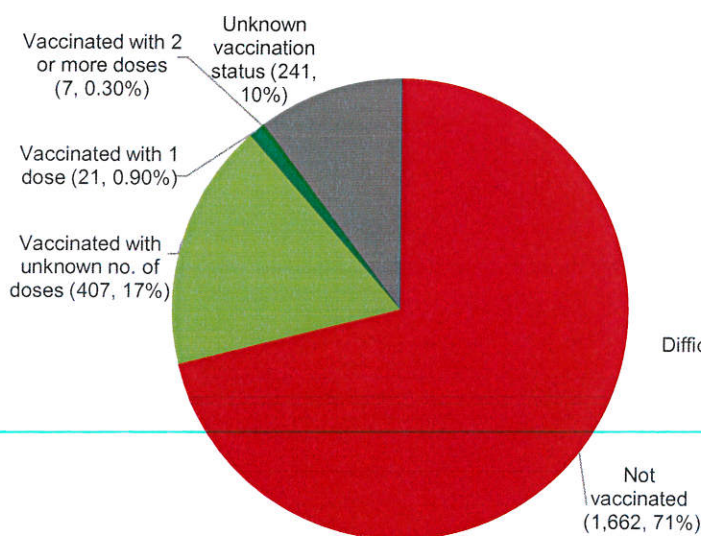
**Figure 7. Confirmed Measles Cases by Age Group and Sex, Philippines, January 1 to August 25, 2018 (n=2,338)\***



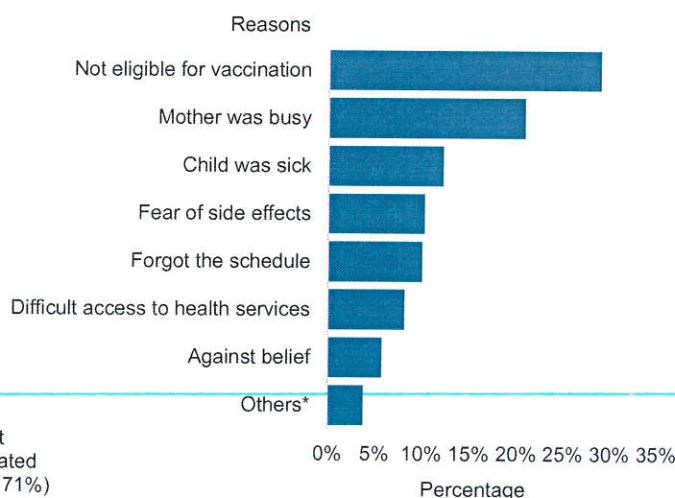
\*11 cases with unspecified age

Majority (1,662, 71%) 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 (29%), mother was busy (21%) and child was sick (12%) (Figure 9).

**Figure 8. Vaccination Status of Confirmed Measles Cases, Philippines, January 1 to August 25, 2018 (n=2,338)**



**Figure 9. Reasons for Non-vaccination of Measles Vaccine among Confirmed Measles Cases\*, Philippines, January 1 to August 25, 2018**



\*with available data

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

### Profile of Confirmed Measles Deaths

There were 30 deaths (CFR=1.28%) out of the 2,338 confirmed measles cases. Ages of deaths ranged from **3 months to 24 years** old (median age of 9 months). Age groups of these deaths were: less than 9 months old (14, 47%), 1-4 years old (9, 30%) 9-11 months old (6, 20%), and 20-24 years old (1, 3%). Most (19, 63%) of the deaths had pneumonia complications. All died in the hospital with 0 to 28 days (median hospital days of 3 days) interval from date of admission to date of death.

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.

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## Confirmed Rubella Cases

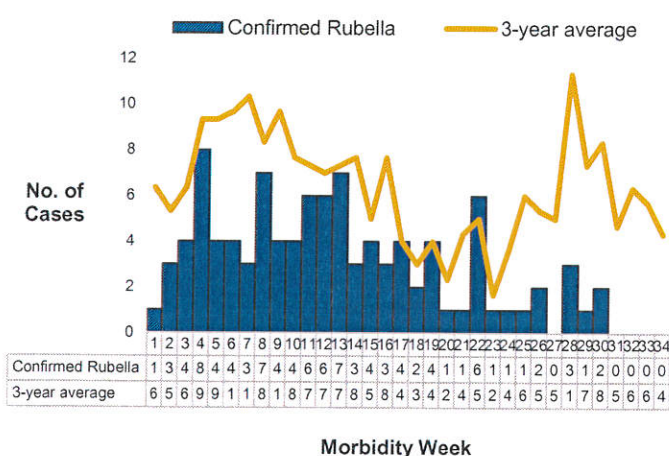
### Trend in the Philippines

There were 100 confirmed rubella cases from January 1 to August 25, 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.

### Geographic Distribution

Most of the confirmed rubella cases were from the following regions: Region XI (22, 22%), Region IVA (13, 13%), Region XII (11, 11%), NCR (9, 9%) and Region I (6, 6%). Confirmed rubella cases in 2018 is 76% lower compared to the same time period in 2017 (414). No deaths were reported (Table 3).

**Figure 10. Confirmed Rubella Cases by Morbidity Week, Philippines, January 1 to August 25, 2018 (n=100)**



**Table 3. Confirmed Rubella Cases by Region, Philippines, January 1 to August 25, 2018 (n=100) vs. January 1 to August 25, 2017**

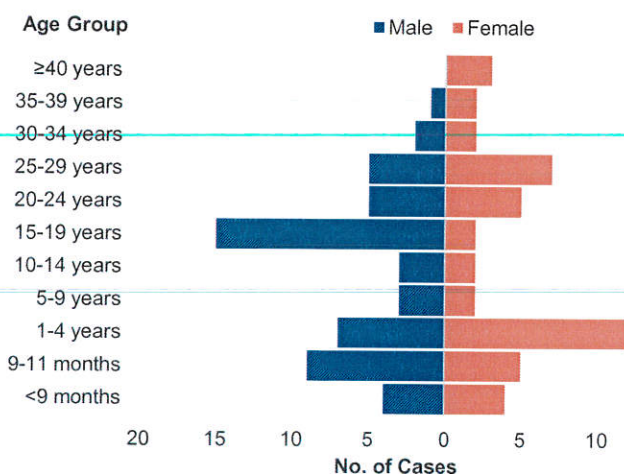
| Region   | 2018  |        | 2017  |        | Percent Change |
|----------|-------|--------|-------|--------|----------------|
|          | Cases | Deaths | Cases | Deaths |                |
| PHL      | 100   | 0      | 414   | 0      | ↓ 76           |
| I        | 6     | 0      | 33    | 0      | ↓ 82           |
| II       | 2     | 0      | 4     | 0      | ↓ 50           |
| III      | 6     | 0      | 39    | 0      | ↓ 85           |
| IVA      | 13    | 0      | 89    | 0      | ↓ 85           |
| MIMAROPA | 2     | 0      | 1     | 0      | ↑ 100          |
| V        | 1     | 0      | 3     | 0      | ↓ 67           |
| VI       | 5     | 0      | 90    | 0      | ↓ 94           |
| VII      | 6     | 0      | 5     | 0      | ↑ 20           |
| VIII     | 1     | 0      | 40    | 0      | ↓ 98           |
| IX       | 3     | 0      | 4     | 0      | ↓ 25           |
| X        | 4     | 0      | 6     | 0      | ↓ 33           |
| XI       | 22    | 0      | 5     | 0      | ↑ 340          |
| XII      | 11    | 0      | 2     | 0      | ↑ 450          |
| ARMM     | 1     | 0      | 1     | 0      | 0              |
| CAR      | 2     | 0      | 58    | 0      | ↓ 97           |
| CARAGA   | 6     | 0      | 1     | 0      | -              |
| NCR      | 9     | 0      | 33    | 0      | ↓ 73           |

### Profile of Confirmed Rubella Cases

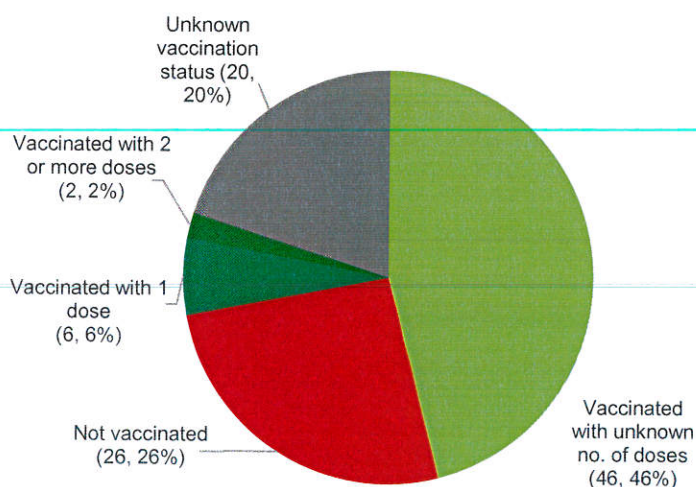
Majority (54, 54%) of the confirmed rubella cases were male. Ages of cases ranged from **less than 1 month** to **63 years** old (median age of 14 years). Age groups with the most number of cases were: 1-4 years old (19, 19%) and 15-19 years old (17, 22%), (Figure 11).

Most (46, 46%) of the confirmed rubella cases were vaccinated but with unknown number of doses. Only 2 cases (2%) were 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 August 25, 2018 (n=100)**



**Figure 12. Vaccination Status of Confirmed Rubella Cases, Philippines, January 1 to August 25, 2018 (n=100)**





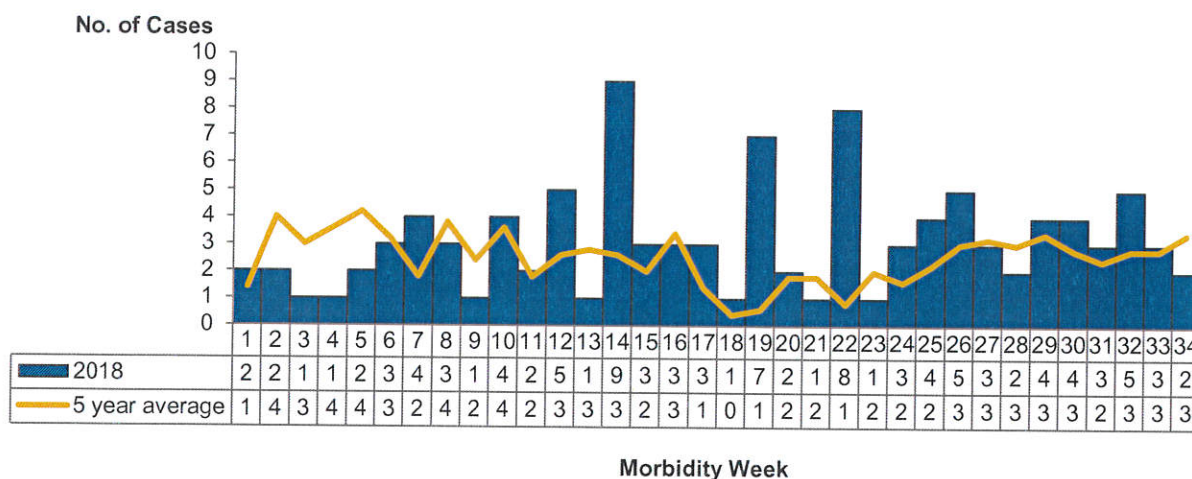


## II. DIPHTHERIA

### Trend in the Philippines

A total of **107** diphtheria cases were reported nationwide from January 1 to August 25, 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 August 25, 2018 (N=107)**



### Geographic Distribution

There has been a **16%** decrease of diphtheria cases from 128 cases in 2017 to 107 cases in 2018, same time period. Most of the reported diphtheria cases came from NCR (40, 37%) followed by Region 4A (21, 20%) and Region 3 (14, 13%) (Table 5). Thirty six (34%) cases were confirmed out of the reported cases. There were six diphtheria clusters identified as of August 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 August 25, 2018 (N=107) vs. January 1 to August 25, 2017**

| REGION             | 2018       |           | 2017       |           | PERCENT CHANGE |
|--------------------|------------|-----------|------------|-----------|----------------|
|                    | CASES      | DEATHS    | CASES      | DEATHS    |                |
| <b>PHILIPPINES</b> | <b>107</b> | <b>26</b> | <b>128</b> | <b>34</b> | <b>↓16</b>     |
| I                  | 1          | 1         | 3          | 0         | ↓67            |
| II                 | 0          | 0         | 1          | 1         | ↓100           |
| III                | 14         | 3         | 14         | 3         | 0              |
| <b>IVA</b>         | <b>21</b>  | <b>4</b>  | <b>15</b>  | <b>5</b>  | <b>↑40</b>     |
| MIMAROPA           | 0          | 0         | 1          | 1         | ↓100           |
| <b>V</b>           | <b>5</b>   | <b>2</b>  | <b>2</b>   | <b>1</b>  | <b>↑150</b>    |
| VI                 | 2          | 0         | 9          | 2         | ↓78            |
| VII                | 2          | 0         | 0          | 0         | -              |
| VIII               | 1          | 0         | 0          | 0         | -              |
| IX                 | 1          | 1         | 21         | 8         | ↓95            |
| X                  | 1          | 0         | 1          | 0         | 0              |
| XI                 | 5          | 2         | 3          | 2         | ↑67            |
| XII                | 0          | 0         | 0          | 0         | -              |
| <b>ARMM</b>        | <b>11</b>  | <b>4</b>  | <b>5</b>   | <b>1</b>  | <b>↑120</b>    |
| CAR                | 0          | 0         | 4          | 0         | ↓100           |
| CARAGA             | 3          | 0         | 0          | 0         | -              |
| NCR                | 40         | 9         | 49         | 10        | ↓18            |



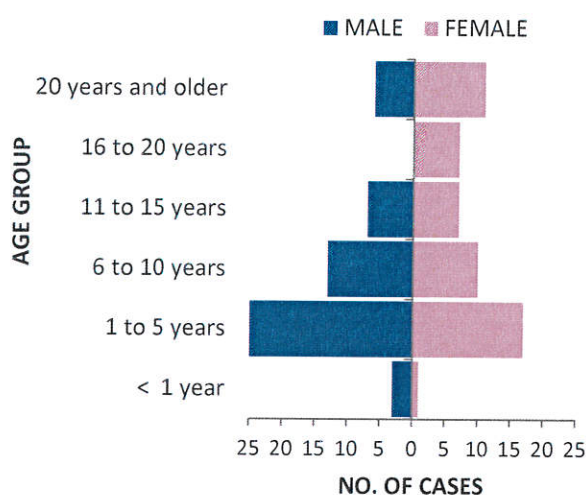


## Profile of Cases

### A. Suspect cases

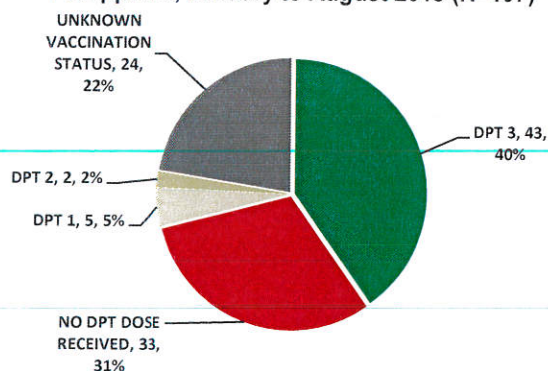
There were **54 males (50%)** and **53 females (50%)** among the reported diphtheria cases. Age of cases ranged from **2 months to 64 years old** (median age of 6 years). Age groups with the most number of cases were **1 - 5 years old (42, 39%)**, followed by 6-10 years old (23, 22%) and more than 20 years old (17, 16%) (Figure 14).

**Figure 14. Suspect Diphtheria Cases by Age Group and Sex, Philippines, January 1 to August 25, 2018 (N=107)**



Vaccination status showed that majority (**43,40%**) of the reported cases received **complete 3 primary doses** of the DPT/Pentavalent vaccine. Thirty three (31%) did not receive a dose of the DPT/Pentavalent vaccine, 24 (22%) had unknown vaccination status, 5 (5%) had received 1 dose while 2 (2%) received only 2 doses of the vaccine (Figure 15).

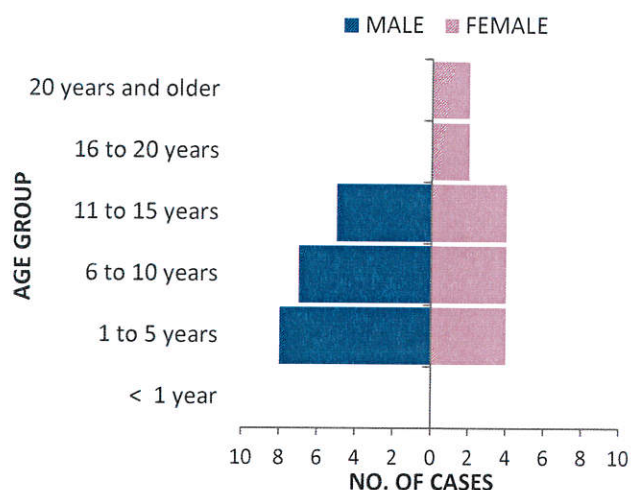
**Figure 15. Reported Diphtheria Cases by DPT Dose Received, Philippines, January to August 2018 (N=107)**



### B. Confirmed cases

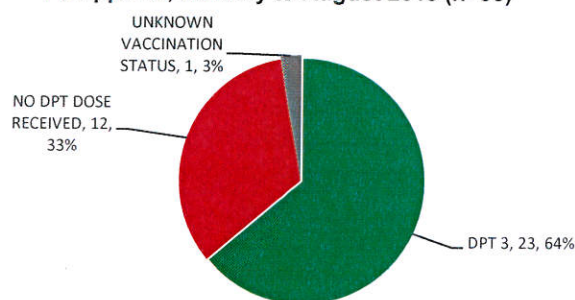
There were **16 females (44%)** and **20 males (56%)** among the confirmed diphtheria cases. Age of cases ranged from 1 to 22 years old (median age of 7 years). Age groups with the most number of cases were **1-5 years (12, 33%)** and **6-10 years (11, 31%)** (Figure 16).

**Figure 16. Confirmed Diphtheria Cases by Age Group and Sex, Philippines, January 1 to August 25, 2018 (n=36)**



Majority (23,64%) of the confirmed cases received **complete 3 primary doses** of the DPT/Pentavalent vaccine while twelve (12) or 33% did not receive a dose of the DPT/Pentavalent vaccine (Figure 17).

**Figure 17. Confirmed Diphtheria Cases by DPT Dose Received, Philippines, January to August 2018 (n=36)**



## Profile of Confirmed Diphtheria Deaths

There were nine deaths (CFR=25%) among the 36 confirmed diphtheria cases. Ages of deaths ranged from **1 year to 8 years old** (median age of 5 years). Deaths came from the following age groups : 1-5 years old (5, 56%) and 6-10 years (4, 44%). Majority (5, 56%) did not receive a dose of the DPT/ Pentavalent vaccine while 4 (44%) received complete 3 primary doses of the vaccine.



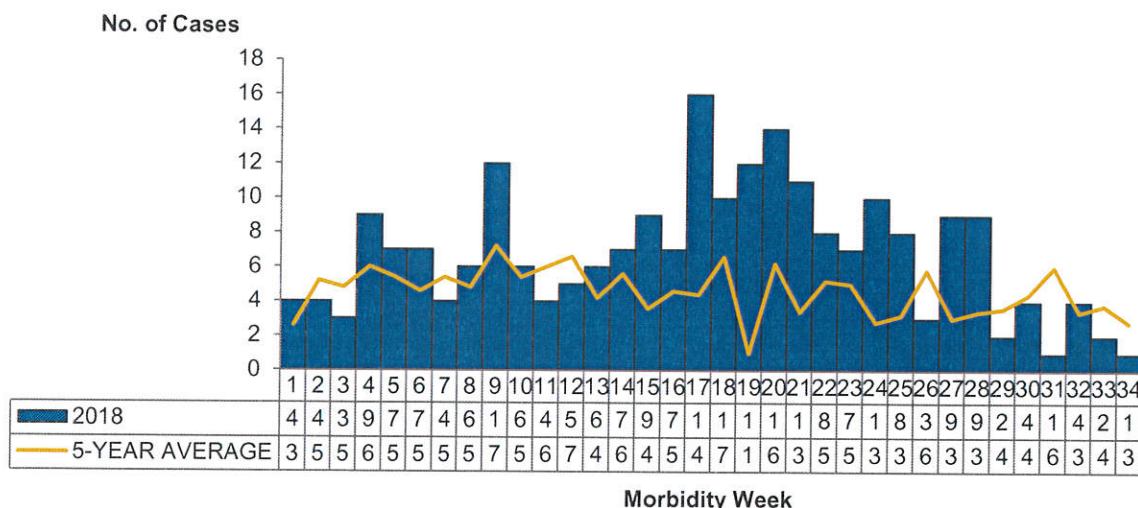


### III. PERTUSSIS

#### Trend in the Philippines

A total of **231** pertussis cases were reported nationwide from January 1 to August 25, 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 August 25, 2018 (N=231)**



#### Geographic Distribution

There has been a **4%** increase of reported pertussis cases from 222 cases in 2017 to 231 cases in 2018, same time period. Majority of the reported pertussis cases came from NCR (56, 24%) followed by Region III (33, 14%) and Regions IVA and XI (32 each, 14%) (Table 6). Sixty eight (29%) cases were confirmed out of 231 cases. Thirteen pertussis clusters were identified as of August 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 August 25, 2018 (N=231) vs. January 1 to August 25, 2017**

| REGION      | 2018  |        | 2017  |        | PERCENT CHANGE |
|-------------|-------|--------|-------|--------|----------------|
|             | CASES | DEATHS | CASES | DEATHS |                |
| PHILIPPINES | 231   | 9      | 222   | 15     | ↑4             |
| I           | 5     | 1      | 2     | 0      | ↑150           |
| II          | 4     | 2      | 7     | 1      | ↓43            |
| III         | 33    | 1      | 28    | 3      | ↑18            |
| IVA         | 32    | 1      | 52    | 7      | ↓38            |
| MIMAROPA    | 1     | 0      | 0     | 0      | -              |
| V           | 1     | 0      | 1     | 0      | 0              |
| VI          | 5     | 0      | 3     | 0      | ↑67            |
| VII         | 23    | 1      | 10    | 0      | ↑130           |
| VIII        | 2     | 0      | 1     | 0      | ↑100           |
| IX          | 1     | 0      | 2     | 0      | ↓50            |
| X           | 3     | 0      | 7     | 0      | ↓57            |
| XI          | 32    | 2      | 29    | 1      | ↑10            |
| XII         | 1     | 0      | 4     | 0      | ↓75            |
| ARMM        | 2     | 0      | 3     | 0      | ↓33            |
| CAR         | 24    | 1      | 4     | 0      | ↑500           |
| CARAGA      | 6     | 0      | 6     | 0      | 0              |
| NCR         | 56    | 0      | 63    | 3      | ↓11            |



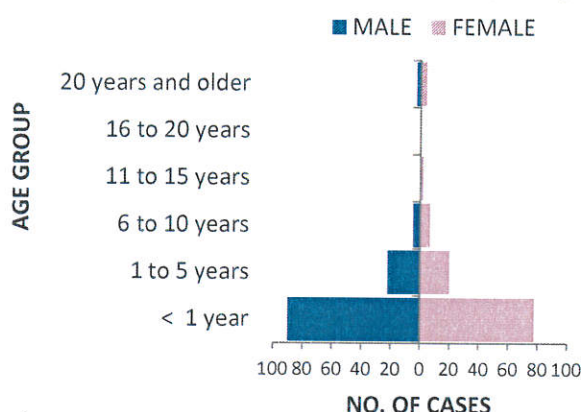


## Profile of Cases

### A. Suspect cases

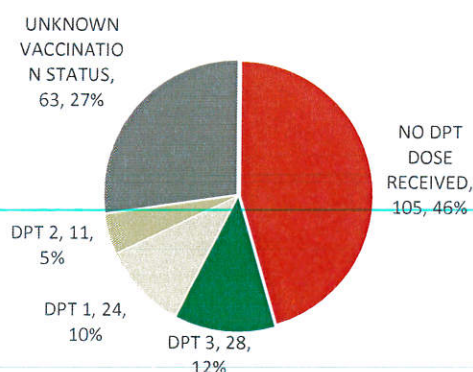
There were 111 (48%) males and 120 (52%) females among the reported pertussis cases. Age of cases ranged from 9 days to 77 years old (median age of 4 months). Age groups with most number of cases were **less than 1 year** (168, 73%), followed by those from the 1 to 5 years (42, 18%), and 6 to 10 years old (12, 5%) group (Figure 19).

Figure 19. Reported Pertussis Cases by Age Group and Sex, Philippines, January 1 to August 25, 2018 (N=231)



Majority of the reported cases (105, 45%) were **not vaccinated** with the DPT/pentavalent vaccine. Sixty three cases (27%) had unknown vaccination status, 28 (12%) received complete 3 primary doses, 24 (10%) received only 1 dose while the remaining 11 cases (5%) received only 2 doses of the vaccine (Figure 20).

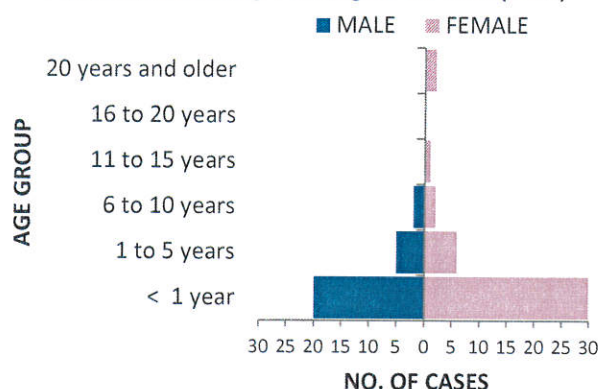
Figure 20. Reported Pertussis Cases by DPT Dose Received, Philippines, January 1 to August 25, 2018 (N=231)



### B. Confirmed cases

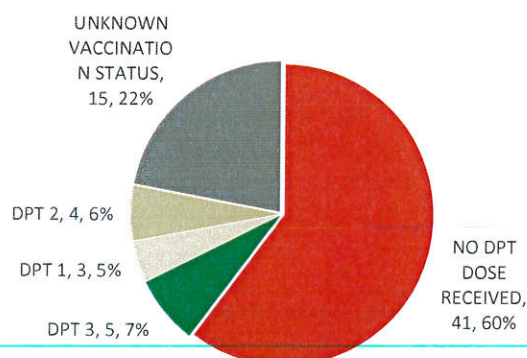
There were 41 females (60%) and 27 males (40%) among the confirmed pertussis cases. Age of cases ranged from 13 days to 34 years old (median age of 2 months). Age groups with the most number of cases were **less than 1 year** (50, 74%), followed by those 1 to 5 years (11, 16%) and 6 to 10 years old (4, 6%) (Figure 21).

Figure 21. Confirmed Pertussis Cases by Age Group and Sex, Philippines, January 1 to August 25, 2018 (n=68)



Majority (41, 60%) of the confirmed cases were **not vaccinated** with the DPT/Pentavalent vaccine. Fifteen (15) or 22% had an unknown vaccinated status, 5 (7%) received 1 dose, 4 (6%) 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 August 25, 2018 (n=68)



## Profile of Confirmed Pertussis Deaths

There were 5 deaths (CFR=7.35%) among the 68 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.



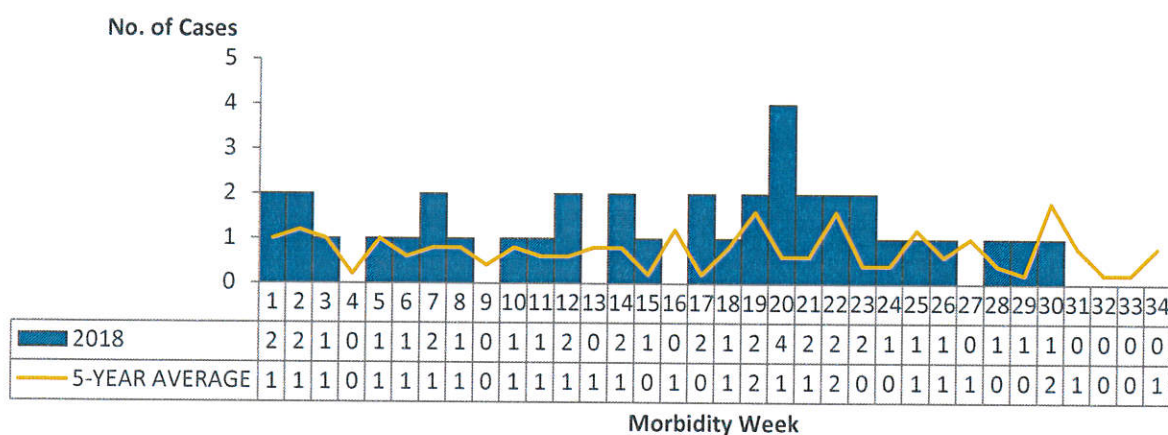


#### IV. NEONATAL TETANUS

##### Trend in the Philippines

A total of **thirty nine (39)** clinically confirmed neonatal tetanus (NT) cases were reported nationwide from January – August 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 August 25, 2018 (N=39)**



##### Geographic Distribution

There has been a **35%** decrease of reported neonatal tetanus cases from 60 cases in 2017 to 39 cases in 2018, same time period. **ARMM** reported the most number of cases (**13, 33%**), followed by Region XII with 8 cases (21%) (Table 7).

**Table 7. Neonatal Tetanus Cases by Region, Philippines, January 1 to August 25, 2018 (N=39) vs. January 1 to August 25, 2017**

| REGION      | 2018  |        | 2017  |        | PERCENT CHANGE |
|-------------|-------|--------|-------|--------|----------------|
|             | CASES | DEATHS | CASES | DEATHS |                |
| PHILIPPINES | 39    | 23     | 60    | 38     | ↓35            |
| I           | 1     | 0      | 0     | 0      | -              |
| II          | 1     | 0      | 2     | 2      | ↓50            |
| III         | 1     | 1      | 3     | 2      | ↓67            |
| IVA         | 2     | 2      | 3     | 1      | ↓33            |
| MIMAROPA    | 0     | 0      | 8     | 6      | ↓100           |
| V           | 0     | 0      | 2     | 2      | ↓100           |
| VI          | 3     | 3      | 2     | 1      | ↑50            |
| VII         | 0     | 0      | 2     | 2      | ↓100           |
| VIII        | 2     | 1      | 2     | 2      | 0              |
| IX          | 3     | 2      | 1     | 1      | ↑200           |
| X           | 2     | 0      | 2     | 0      | 0              |
| XI          | 0     | 0      | 1     | 0      | ↓100           |
| XII         | 8     | 4      | 10    | 6      | ↓20            |
| ARMM        | 13    | 8      | 18    | 10     | ↓28            |
| CAR         | 0     | 0      | 0     | 0      | -              |
| CARAGA      | 1     | 1      | 2     | 2      | ↓50            |
| NCR         | 2     | 1      | 2     | 1      | 0              |



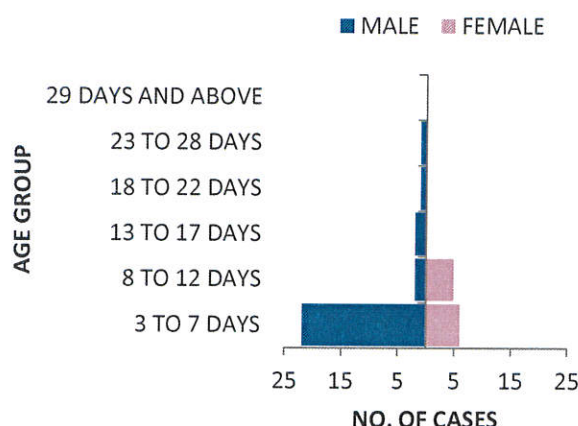


**Profile of Cases**

**A. Age group and Sex**

Among the clinically-confirmed cases, 28 (72%) were **male**. Age of the cases ranged from **3 to 24 days old** (median age of 6 days). More than half of the cases were from the **3 to 7 day age group** (28, 72 %), followed by cases 8 to 12 days old (7, 18%) (Figure 24).

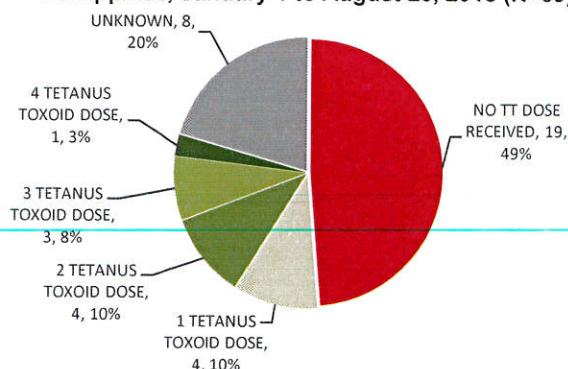
**Figure 24. Clinically Confirmed Neonatal Tetanus Cases by Age Group and Sex, Philippines, January 1 to August 25, 2018 (N=39)**



**B. Vaccination Status**

Nineteen (49%) of the mothers of clinically confirmed cases **did not receive any dose of the tetanus toxoid vaccine**, followed by those with unknown vaccination status (8, 21%). Four (10%) received only 1 dose, 4 (10%) received 2 doses, 3 (8%) received 3 doses while the remaining 1 (3%) case received 4 doses (Figure 25).

**Figure 25. Clinically Confirmed Neonatal Tetanus Cases by Vaccination Status, Philippines, January 1 to August 25, 2018 (N=39)**



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

In terms of delivery practices, 35 (90%) of the neonatal tetanus cases were delivered at home. Twenty seven (69%) of the cases were attended by a hilot. Fourteen (36%) cases had scissors as the common cord cutting tool used. Umbilical stump treatment of majority of the NT cases was alcohol (20, 51%) (Table 8).

**Table 8. Delivery Practices of Clinically Confirmed Neonatal Tetanus Cases, Philippines, January 1 to August 25, 2018 (N=39)**

| Delivery Practices          | No. of Cases | Percentage |
|-----------------------------|--------------|------------|
| <b>Place of Delivery</b>    |              |            |
| Home                        | 35           | 90%        |
| Hospital/Lying-In/Clinic    | 2            | 5%         |
| Road                        | 1            | 3%         |
| Tricycle                    | 1            | 3%         |
| <b>Delivery Attendant</b>   |              |            |
| Hilot                       | 27           | 69%        |
| Lay Person                  | 4            | 10%        |
| Midwife                     | 4            | 10%        |
| Unknown                     | 3            | 8%         |
| Nurse                       | 1            | 3%         |
| <b>Cord Cut Tool Used</b>   |              |            |
| Scissors                    | 14           | 36%        |
| Blade                       | 11           | 28%        |
| Bamboo                      | 9            | 23%        |
| Unknown                     | 5            | 13%        |
| <b>Stump Treatment Used</b> |              |            |
| Alcohol                     | 20           | 51%        |
| Unknown                     | 13           | 33%        |
| None                        | 3            | 8%         |
| Cooking Oil                 | 1            | 3%         |
| Powder                      | 1            | 3%         |
| Water                       | 1            | 3%         |

**Profile of Neonatal Tetanus Deaths**

There were 23 deaths (CFR=59%) among the 39 neonatal tetanus cases. Ages of deaths ranged from 3 days to 18 days old (median age of 6 days). Deaths came from the following age groups : 3-7 days old (16, 70%), 8 – 12 days (4, 17%) and 13-17 days (2, 9%). Majority (14, 61%) did not receive a dose of the tetanus toxoid vaccine. Five (22%) had unknown vaccination status, 2 (9%) received 2 doses while those that received 1 dose, and 3 doses had 1 case each (4%).





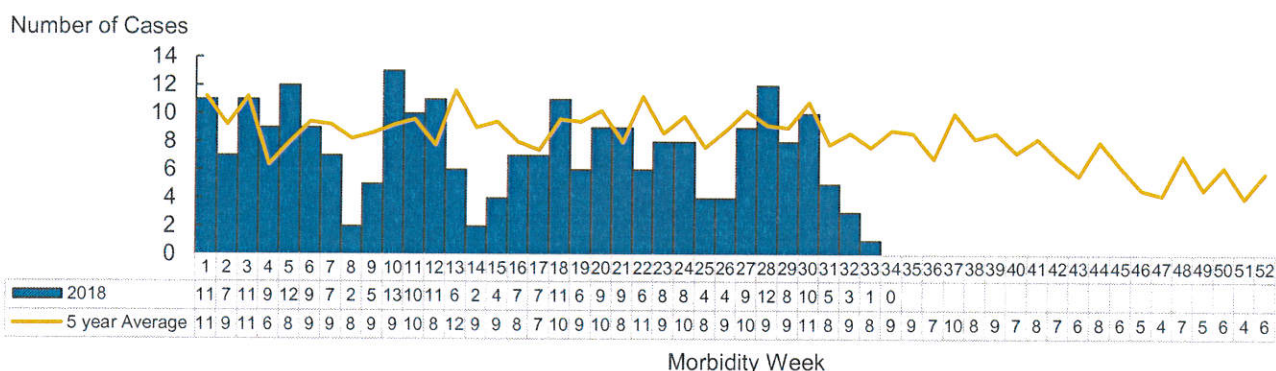
## V. ACUTE FLACCID PARALYSIS

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 **246 AFP** cases were reported nationwide from January 1 to August 25, 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=246)**  
**Philippines, January 1 to August 25, 2018**



### Geographic Distribution

A total of 246 AFP cases were reported from January to August 25, 2018; while 272 AFP cases were reported during the same time period last year. Among the 246 reported AFP cases, 143 (58%) were *discarded as non-polio AFP*, while 73 (30%) are still pending for 60 day follow-up, expert panel review and for official laboratory result. There were 30 (12%) reported cases that did not fit the case definition and were classified as *not AFP*. For this period, the non-polio AFP rate\* is 0.74 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 August 25, 2018 vs. January 1 to August 25, 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>246</b>       | <b>143 (58%)</b>           | <b>73 (30%)</b> | <b>30 (12%)</b> | <b>0.74</b>            | <b>272</b>       | <b>0.93</b>            |
| I          | 15               | 7                          | 6               | 2               | 0.75                   | 37               | 2.57                   |
| II         | 4                | 3                          | 1               | 0               | 0.47                   | 16               | 1.47                   |
| III        | 38               | 19                         | 17              | 2               | 0.90                   | 27               | 0.80                   |
| IVA        | 36               | 18                         | 8               | 10              | 0.69                   | 29               | 0.64                   |
| MIMAROPA   | 3                | 1                          | 2               | 0               | 0.31                   | 3                | 0.29                   |
| V          | 19               | 15                         | 3               | 1               | 1.17                   | 18               | 1.21                   |
| VI         | 23               | 20                         | 3               | 0               | 1.43                   | 25               | 2.10                   |
| VII        | 13               | 7                          | 5               | 1               | 0.48                   | 8                | 0.50                   |
| VIII       | 13               | 7                          | 3               | 3               | 0.75                   | 9                | 0.48                   |
| IX         | 11               | 8                          | 3               | 0               | 1.05                   | 7                | 0.57                   |
| X          | 8                | 2                          | 0               | 6               | 0.20                   | 17               | 1.14                   |
| XI         | 11               | 5                          | 5               | 1               | 0.50                   | 23               | 1.47                   |
| XII        | 10               | 8                          | 2               | 0               | 0.86                   | 17               | 1.33                   |
| ARMM       | 4                | 2                          | 2               | 0               | 0.20                   | 5                | 0.34                   |
| CAR        | 9                | 8                          | 1               | 0               | 2.29                   | 6                | 1.22                   |
| CARAGA     | 3                | 3                          | 0               | 0               | 0.57                   | 5                | 0.78                   |
| NCR        | 26               | 10                         | 12              | 4               | 0.46                   | 20               | 0.35                   |

**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.**



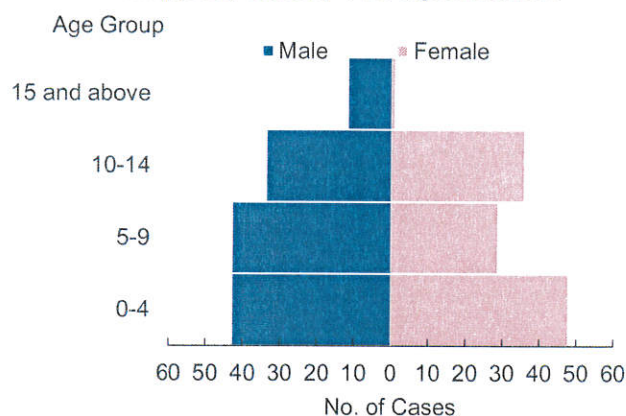


## Profile of Cases

### A. Age group and Sex

One hundred thirty-two (132,54%) are males. Age ranges from < 1 month to 55 years (median age of 7 years old). Ninety-one (91,37%) of the AFP cases reported belong to 0-4 age group (Figure 27).

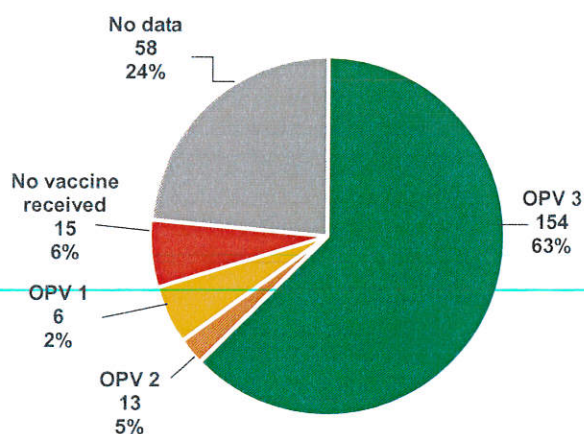
Figure 27. AFP Cases by Sex and Age Group (N=246)  
Philippines, January 1 to August 25, 2018



### B. Vaccination Status

Among the 246 reported AFP cases, 154 (63%) completed 3 doses of OPV. Fifty-eight (24%) had no data (Figure 28).

Figure 28. Vaccination Status of AFP Cases (N=246)  
Philippines, January 1 to August 25, 2018



### C. Laboratory Status

There were no isolated wild or vaccine-derived poliovirus from January 1 to August 25. Stool 1 was collected in 215 (87%) AFP cases and stool 2 in 195 (79%) 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=246)  
Philippines, January 1 to August 25, 2018

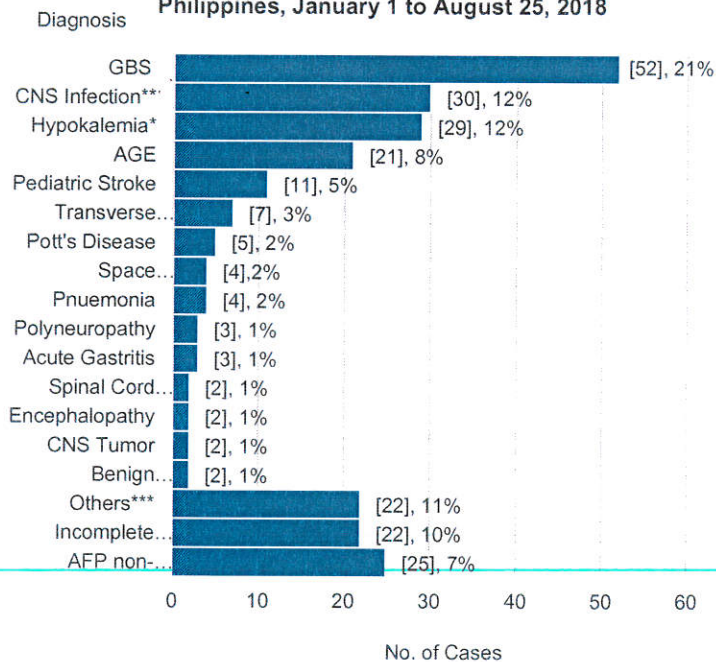
| Stool Specimen Result        | Stool Specimen 1 |            | Stool Specimen 2 |            |
|------------------------------|------------------|------------|------------------|------------|
|                              | Number           | Percentage | Number           | Percentage |
| Total                        | 215              | 87%        | 195              | 79%        |
| Negative for poliovirus      | 184              | 86%        | 163              | 84%        |
| Others                       |                  |            |                  |            |
| Poliovirus (Sabin-Like)*     | 2                | 1%         | 3                | 2%         |
| Non-polio enterovirus (NPEV) | 8                | 4%         | 6                | 3%         |
| Pending Lab Results          | 21               | 10%        | 23               | 12%        |

\* 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 (52,21%), CNS Infection\* (30,12%), and Hypokalemia\*\* (29,12%) (Figure 29).

Figure 29. AFP Cases by Differential Diagnosis (N=246)  
Philippines, January 1 to August 25, 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, Viral Myositis

\*\*\*\*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       |
| 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       |