



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 May 25, 2019 or Morbidity Weeks 1 -21 (Table 1).

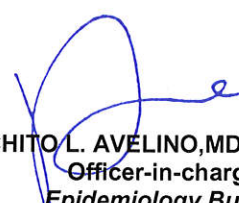
Table 1. Summary of Reported Vaccine Preventable Diseases, Philippines, January 1 – May 25, 2019


Vaccine Preventable Diseases	Total No of Cases	Confirmed Cases		
		Cases	Deaths	CFR %
Measles	36,915	-	-	-
Rubella		-	-	-
Diphtheria	69	7	4	57
Pertussis	59	7	1	14
Neonatal Tetanus	24	24	11	46
Polio (AFP Surveillance)	85	-	-	-

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"> Any neonate (≤ 28 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 A neonate between 3 to 28 days of life, diagnosed as a case of tetanus by a physician.
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"> - A case of acute cough illness of any duration with a positive culture for B. pertussis; 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

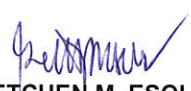
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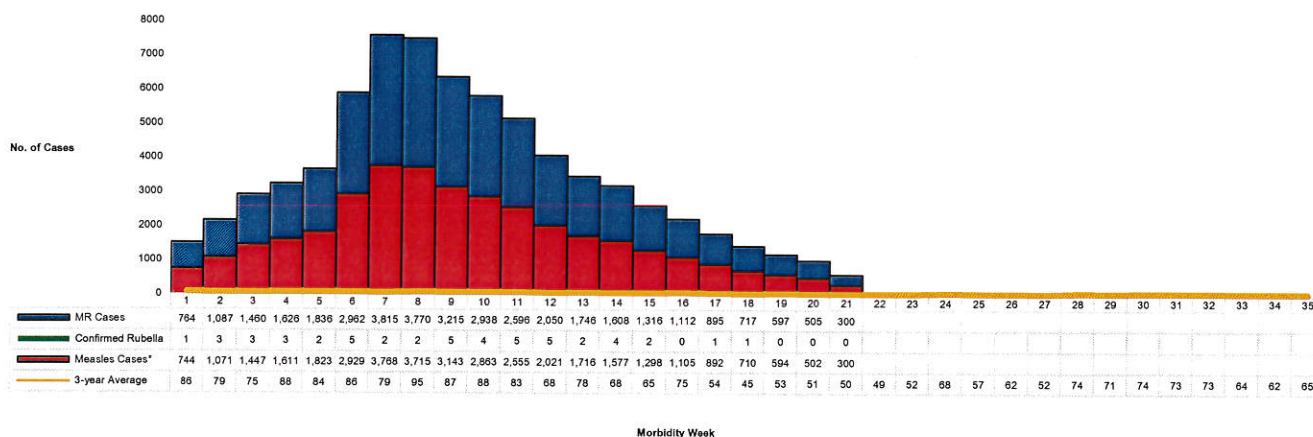
I. MEASLES-RUBELLA

Suspect Cases

Trend in the Philippines

A total of 36,915 suspect measles-rubella cases were reported from January 1 to May 25, 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 May 25, 2019 (N=36,915)



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

Geographic Distribution

From January 1 to May 25, 2019 or morbidity weeks 1 to 21, cases are 268% higher than the number of cases reported during the same time period last year (10,029). Most of the reported cases were from the following regions: IVA (6,876, 19%), NCR (6,860, 19%), Region III (6,063 or 16%), Region VI (2,304 or 6%) and Region X (1,935 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 BARMM.

Table 1. Reported Measles-Rubella Cases by Region, Philippines, January 1 to May 25, 2019 (N=36,915) vs. January 1 to May 25, 2018

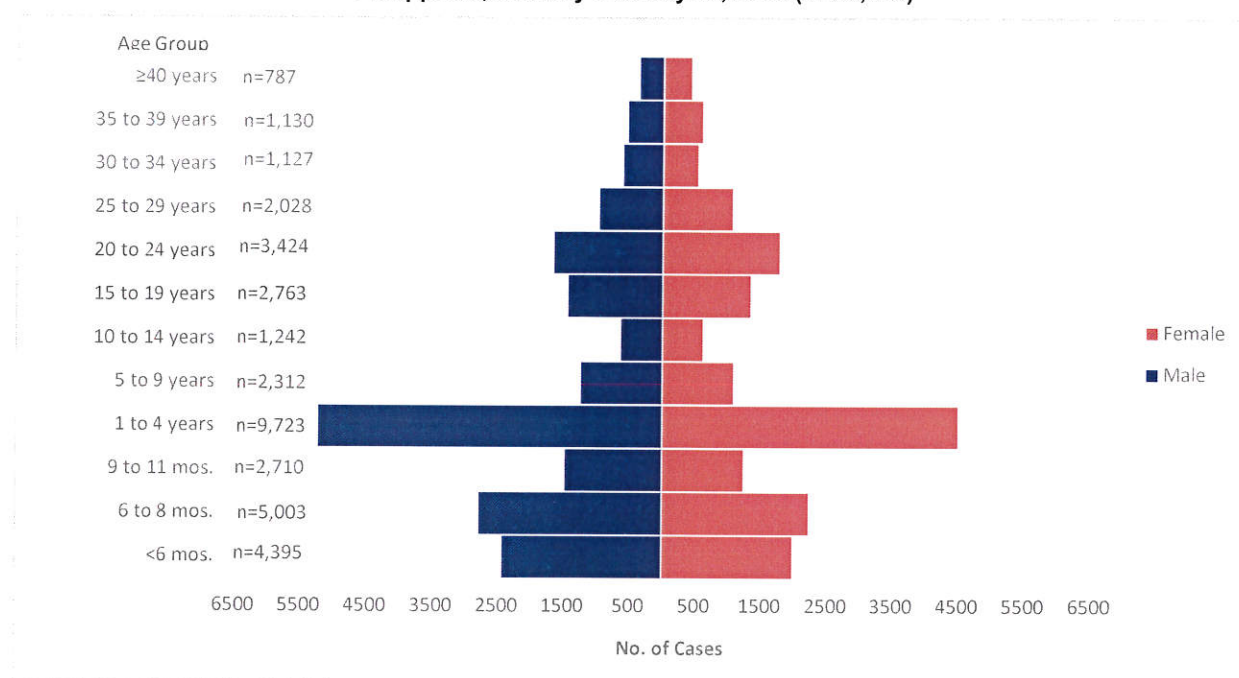
Region	2019		2018		% Change
	Cases	Deaths	Cases	Deaths	
PHILIPPINES	36,915	497	10,029	84	↑ 268
I	1,670	19	177	0	↑ 844
II	549	2	44	0	↑ 1,148
III	6,063	109	368	5	↑ 1,548
IV-A	6,876	122	394	3	↑ 1,645
MiMaRoPa	1,557	16	29	0	↑ 5,269
V	1,115	10	59	0	↑ 1,790
VI	2,304	7	182	0	↑ 1,166
VII	1,849	14	208	1	↑ 789
VIII	1,580	33	35	1	↑ 4,414
IX	488	1	1,098	6	↓ 56
X	1,935	15	938	2	↑ 106
XI	940	12	1,164	13	↓ 19
XII	734	5	1,020	11	↓ 28
ARMM	659	6	3,088	25	↓ 79
CAR	669	2	53	0	↑ 1,162
Caraga	1,067	9	129	1	↑ 727
NCR	6,860	115	1,043	16	↑ 558



Profile of Reported Cases

Majority (19,448 or 53%) of the reported cases are males. 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 (9,723 or 26%), 6 to 8 months old (5,003 or 14%) and less than 6 months old (4,395 or 10%) (Figure 2).

Figure 2. Reported Measles-Rubella Cases by Age Group and Sex, Philippines, January 1 to May 25, 2019 (N=36,915)*



*271 cases with unspecified age

Majority (21,356 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 May 25, 2019 (N=36,915)

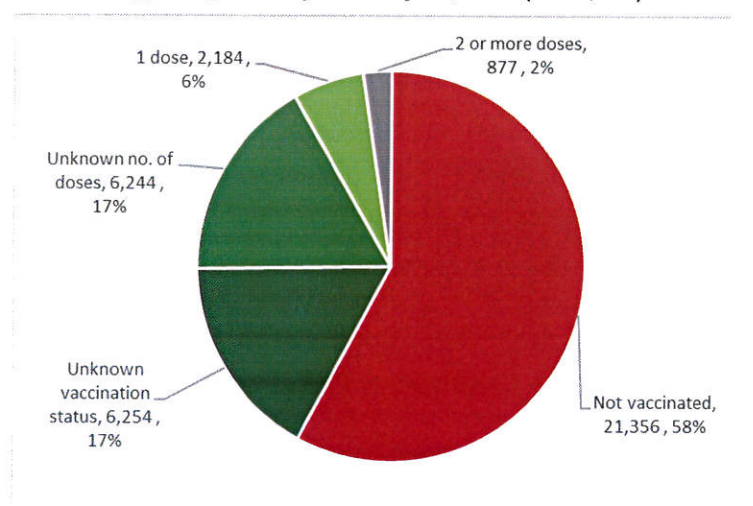
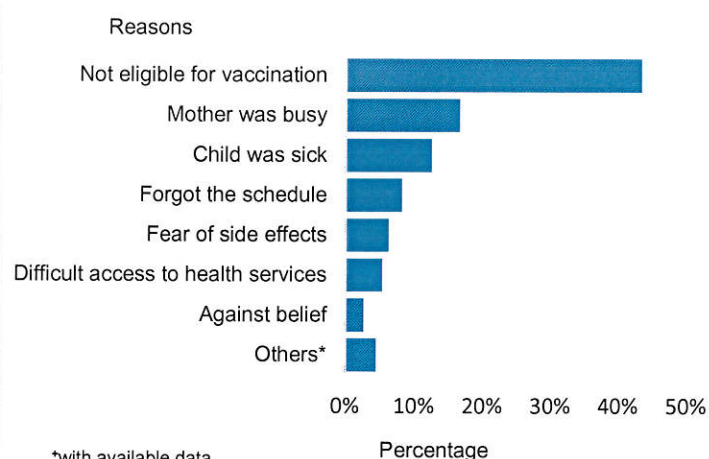


Figure 4. Reasons for Non-vaccination of Measles Vaccine*, Philippines, January 1 to May 25, 2019



*with available data

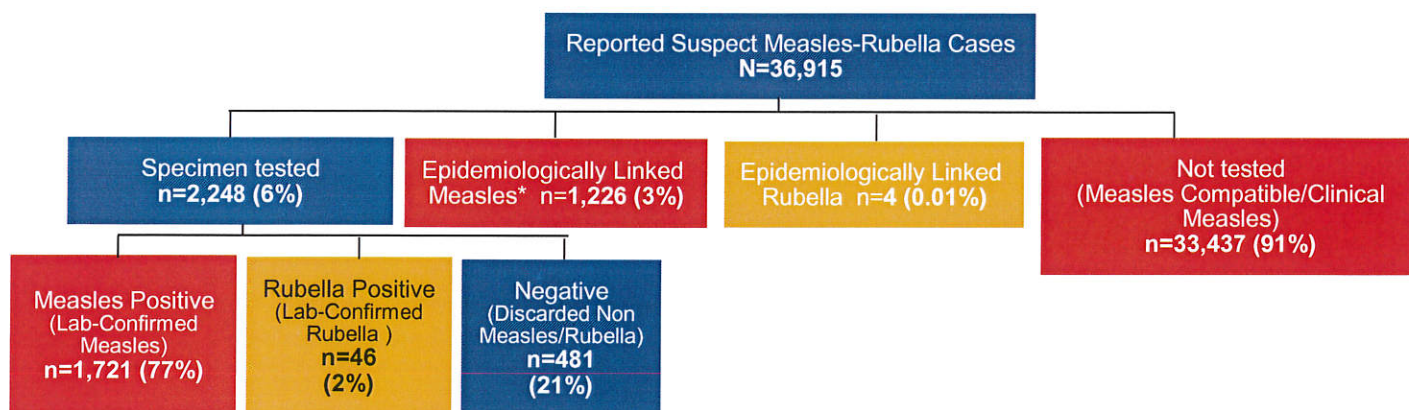
*other reasons: moves residence, lack of knowledge, history of travel, medical contraindication, refused vaccination, flood during immunization, received other vaccine, pregnant, mother was sick, lost vaccination card, child not available, card was left, laziness, with disaster



Case Classification

Among the 36,915 reported cases, a total of 2,248 (6%) cases were tested for measles/rubella IgM and/or PCR. Among the tested cases, 1,721 (77%) were positive for measles and 46 (2%) were positive for rubella. Nine hundred eighty two (1,226 or 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 May 25, 2019 (N=36,915)



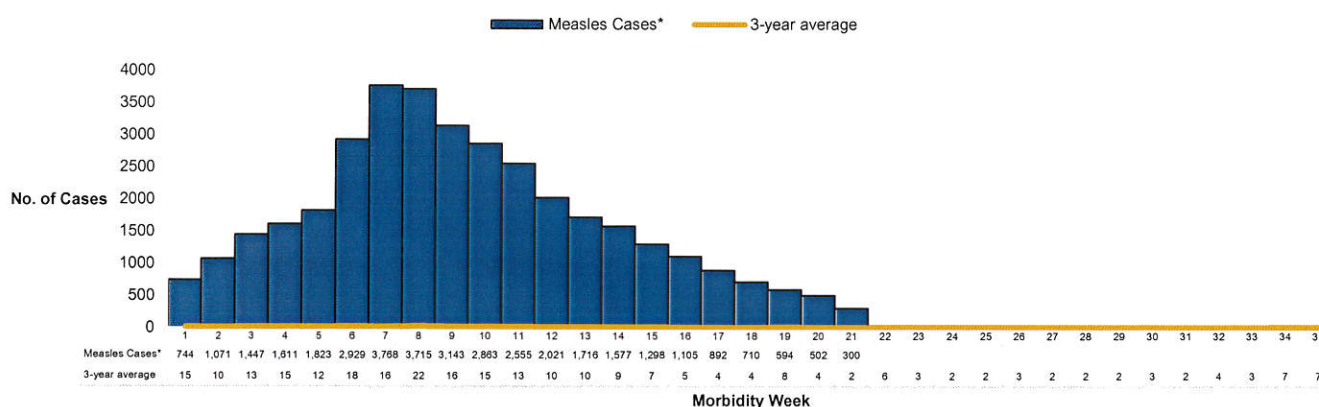
Measles cases=laboratory-confirmed measles, epidemiologically-linked confirmed measles, and measles compatible (n=36,384)

Measles Cases

Trend in the Philippines

There were 36,384 measles cases with 466 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 May 25, 2019 (n=36,384)



* Measles cases=laboratory-confirmed measles, epidemiologically-linked confirmed measles, and measles compatible (n=36,384)



Geographic Distribution

Most of the measles cases were from the following regions: Region IVA (6,833 or 19%), NCR (6,819 or 19%), Region III (6,004 or 17%), Region VI (2,225 or 6%) and Region X (1,924 or 5%). Measles cases in 2019 increased by 285% 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, XII, and BARMM.

Top 5 provinces with measles cases include: Rizal (3,192 or 9%), Bulacan (1,765 or 5%), Pampanga (1,515 or 4%), Cebu (1,218 or 3%, and Laguna (1,187 or 3%).

Top 5 municipalities with measles cases include: Quezon City (1,989 or 5%), Manila (1,273 or 4%), Antipolo City (1,166 or 3%), Caloocan City (763 or 2%) and Cebu City (486 or 1%).

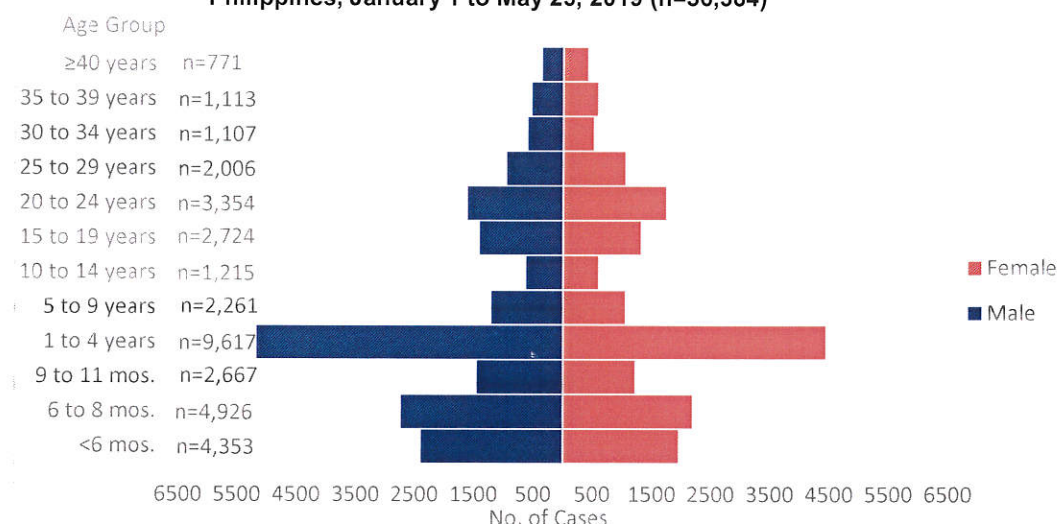
**Table 2. Measles Cases by Region,
Philippines, January 1 to May 25, 2019 (n=36,384) vs. January 1 to May 25, 2018**

Region	2019		2018		% Change
	Cases	Deaths	Cases	Deaths	
PHILIPPINES	36,384	494	9,446	82	↑ 285
I	1576	19	131	0	↑ 1,103
II	527	2	33	0	↑ 1,497
III	6004	109	314	5	↑ 1,812
IV-A	6833	121	338	3	↑ 1,922
MiMaRoPa	1553	16	23	0	↑ 6,652
V	1096	10	44	0	↑ 2,391
VI	2225	7	125	0	↑ 1,680
VII	1814	13	178	1	↑ 919
VIII	1579	33	31	1	↑ 4,994
IX	483	1	1069	5	↓ 55
X	1924	15	909	2	↑ 112
XI	908	12	1094	13	↓ 17
XII	711	5	961	11	↓ 26
BARMM	657	6	3077	25	↓ 79
CAR	623	2	29	0	↑ 2,048
Caraga	1052	9	104	1	↑ 912
NCR	6819	114	986	15	↑ 592

Profile of Measles Cases

Majority (19,176, 53%) of the measles cases are males. 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 (9,617 or 26%), 6-8 months old (4,926 or 14%), and less than 6 months old (4,353, 12%) (Figure 7).

**Figure 7. Measles Cases by Age Group and Sex,
Philippines, January 1 to May 25, 2019 (n=36,384)***





Majority (21,144 or 58%) 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 May 25, 2019 (n=36,384)

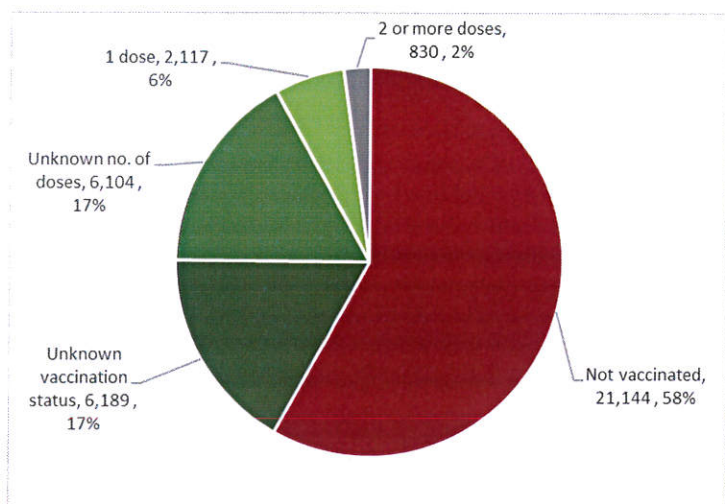
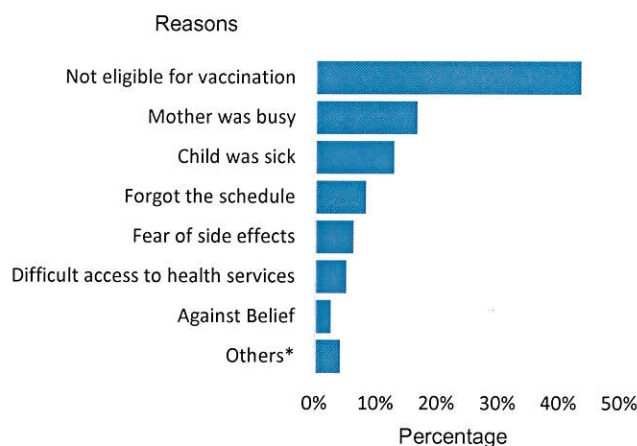


Figure 9. Reasons for Non-vaccination of Measles Vaccine among Measles Cases*, Philippines, January 1 to May 25, 2019



*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, lost vaccination card, child not available, card was left, laziness, with disaster

Profile of Measles Death

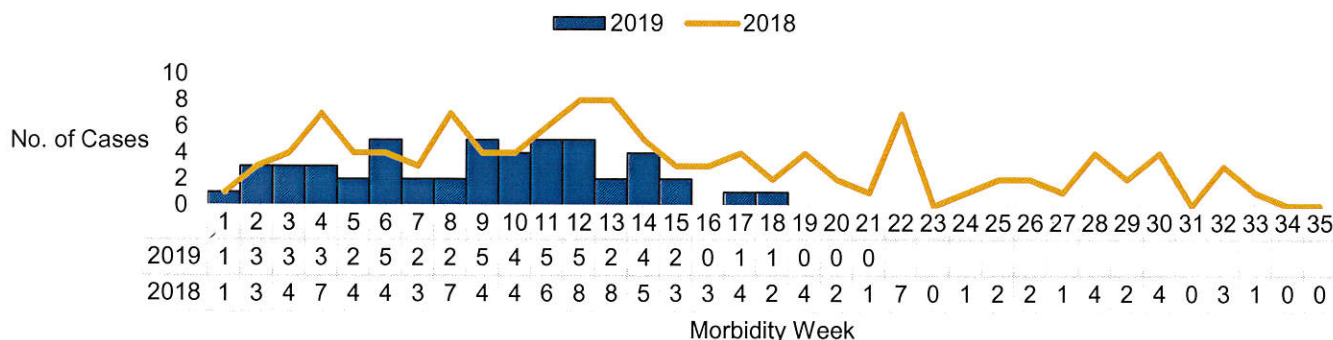
There were 466 deaths (CFR=1.4%) out of the 36,384 measles cases. Ages of deaths ranged from **less than 1 month – 36 years old** (median of 1 year). Most affected age groups with highest number of deaths were: 1-4 years (202 or 41%), less than 6 months (111 or 24%), and 6-8 months (94, 20%). Majority (391 or 79%) of deaths were not vaccinated.

Confirmed Rubella Cases

Trend in the Philippines

There were 50 confirmed rubella cases from January 1 to May 25, 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=50)





Geographic Distribution

There were reported confirmed rubella cases in all regions except for regions MIMAROPA, VII, VIII, and BARMM. This is 43% lower compared to the same time period in 2018 (87). However, Regions III, V, and VI showed increased in the 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 May 25, 2019 (n=29) vs. January 1 to May 25, 2018

Region	2019		2018		% Change
	Cases	Deaths	Cases	Deaths	
PHILIPPINES	50	0	87	0	↓ 43
I	5	0	7	0	↓ 29
II	2	0	2	0	0
III	10	0	4	0	↑ 150
IV-A	7	0	13	0	↓ 46
MiMaRoPa	0	0	2	0	↓ 100
V	1	0	0	0	↑
VI	12	0	4	0	↑ 200
VII	2	0	5	0	↓ 60
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	1	0	13	0	↓ 92
BARMM	0	0	2	0	↓ 100
CAR	2	0	2	0	0
Caraga	2	0	2	0	0
NCR	1	0	7	0	↓ 86

Profile of Rubella Case

Majority (26 or 52%) of confirmed rubella cases are females. Age of cases ranged from **7 months to 40 years old** (median of 17 years). The most affected age groups were and 20 to 24 years (11 or 22%) and 15 to 19 years (7 or 14%) (Figure 11).

Sixteen (32%) of the confirmed rubella cases were vaccinated but with unknown number of doses and 16 (32%) were not vaccinated. Only 3 (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 May 25, 2019 (n=50)

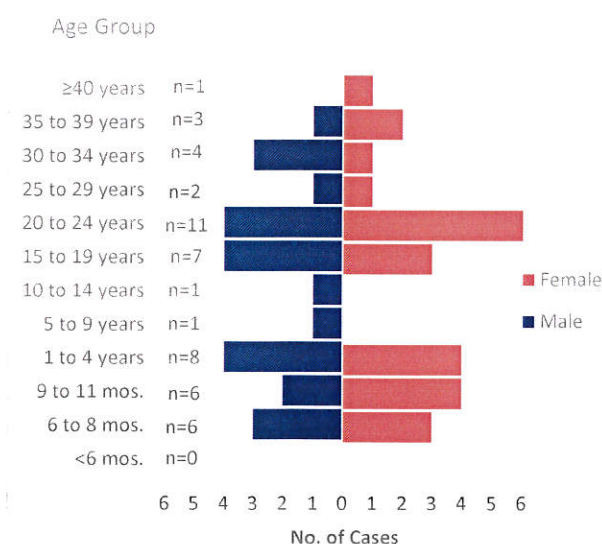
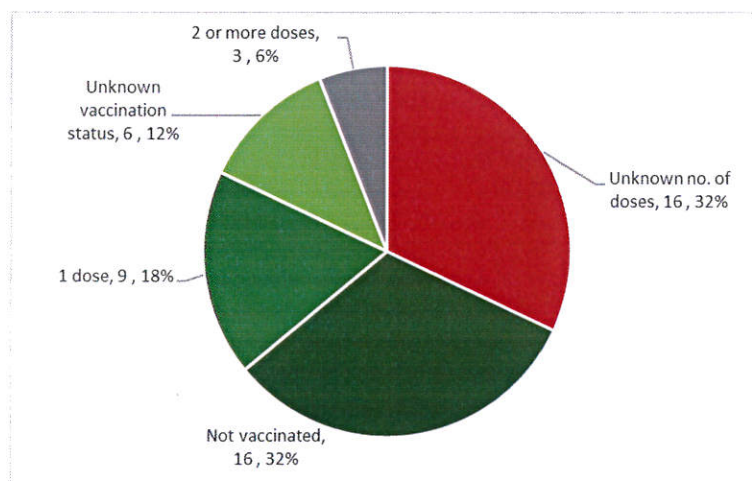


Figure 12. Vaccination Status of Confirmed Rubella Cases, Philippines, January 1 to May 25, 2019 (n=50)





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. However, Regions I, VI, and CAR have met the target on annualized non-measles/non-rubella reporting rate. 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 May 25, 2019 vs. January 1 to May 25, 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	12.95	88.33	23	62	30	26	8.19	76.43	1.80	4.07	58	83
II	2.01	31.76	20	72	20	15	2.95	36.33	0.60	1.32	68	87
III	25.48	54.95	24	62	67	31	7.44	120.26	1.01	0.97	51	94
IV-A	11.13	63.25	10	30	23	13	6.09	103.55	0.66	0.54	68	93
MiMaRoPa	2.33	58.87	17	8	21	3	2.25	119.05	0.31	0.31	69	95
V	9.17	28.35	28	29	24	12	2.35	43.91	0.60	0.71	36	92
VI	16.64	55.15	43	70	34	23	5.61	70.20	1.63	2.04	39	89
VII	34.36	50.26	42	58	44	15	6.44	56.32	0.77	1.01	32	89
VIII	4.65	3.06	3	20	23	10	1.81	80.49	0.16	0.05	63	100
IX	201.08	15.77	6	44	34	23	70.09	30.78	1.66	0.25	69	94
X	103.37	105.50	7	45	47	23	45.74	92.79	1.27	0.48	74	88
XI	133.36	120.07	3	62	34	27	54.28	43.08	2.47	1.33	69	69
XII	171.26	51.43	3	60	50	32	50.93	35.95	2.30	1.08	61	83
ARMM	329.11	18.71	2	21	14	8	180.19	37.35	0.53	0.11	81	95
CAR	8.07	179.42	32	71	43	16	7.13	88.91	2.96	5.85	43	73
Caraga	31.17	34.29	18	21	26	6	11.49	93.82	2.05	1.14	53	95
NCR	74.59	120.75	26	23	30	5	18.57	120.22	0.89	0.70	54	89
PHL	58.98	65.48	9	41	31	16	22.67	82.02	1.12	1.07	68	91
LEGEND:												
<1		≥1	≥80%	<80%	≥80%	<80%	≥2/100,000 Pop.	<2/100,000 Pop.	≥2/100,000 Pop.	<2/100,000 Pop.	<10%	
											≤50%	
											>50%	

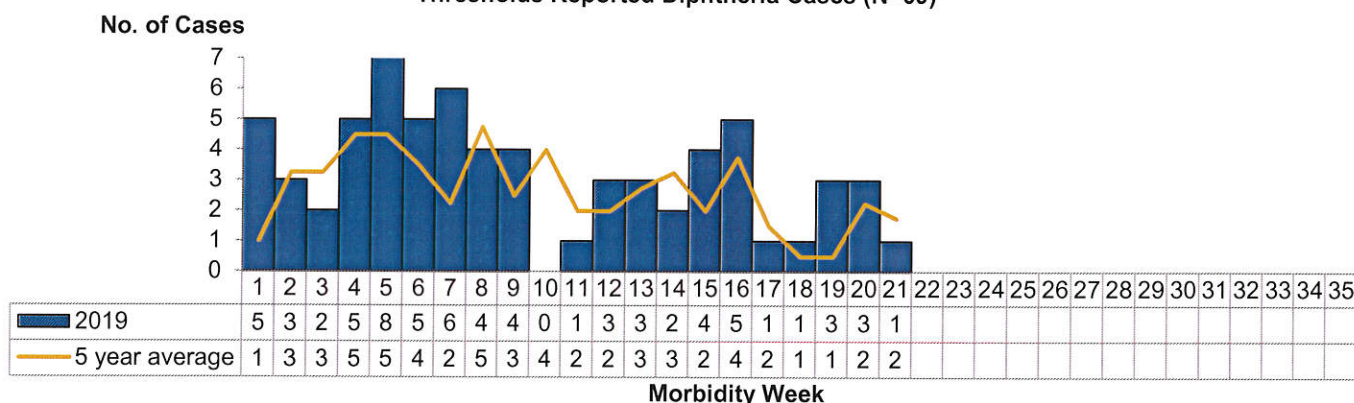


II. DIPHTHERIA

Trend in the Philippines

A total of **69** diphtheria cases were reported nationwide from January 1 – May 25, 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 - 21 (January 1 – May 25, 2019) vs Epidemic and Alert Thresholds Reported Diphtheria Cases (N=69)



Geographic Distribution

There has been no increase of diphtheria cases from 2018 and 2019 (N=69), same time period. Majority of reported diphtheria cases came from NCR (20 or 36%) followed by Region IVA with 9 or 16%. Region with the **highest increase in the percent change** was Region VI with 300% increase (Table 4). Seven (13%) were laboratory confirmed out of 55 cases. One (1) cluster was identified as of April 27, 2019. A cluster is defined as two or more diphtheria cases from the same barangay reported within four consecutive weeks (Annex A).

Top 5 provinces with diphtheria cases include: Bulacan and Rizal with 5 (9%) each, Laguna, Negros Occidental and Zamboanga del Sur with 3 (5%) each.

Table 4. Reported Diphtheria Cases by Region, Philippines, January 1 to May 25, 2019 (N=69) vs. January 1 to May 25, 2018

REGION	2019		2018		PERCENT CHANGE
	CASES	DEATHS	CASES	DEATHS	
PHL	69	18	69	18	0
I	2	1	1	1	↑100
II	0	0	0	0	-
III	8	2	12	2	↓33
IV-A	13	4	16	4	↓19
MiMaRoPa	1	0	0	0	-
V	3	1	1	1	↑200
VI	4	0	1	0	↑300
VII	0	0	2	0	↓100
VIII	0	0	1	0	↓100
IX	7	0	0	0	-
X	0	0	0	0	-
XI	1	1	2	1	↓50
XII	3	0	0	0	-
ARMM	3	3	8	3	↓63
CAR	1	0	0	0	-
Caraga	0	0	2	0	↓100
NCR	23	6	23	6	0

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.

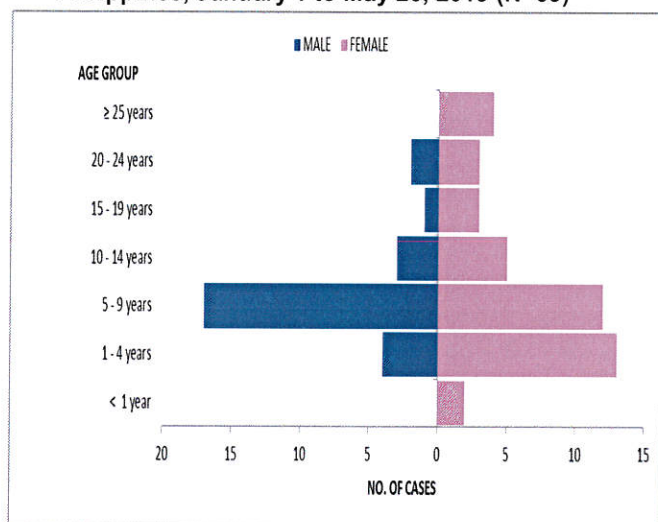


Profile of Cases

A. Cases

There were 27 males (39%) and 42 females (61%) among the reported diphtheria cases. Age of cases ranged from 9 months to 82 years old (median age of 7 years). Age groups with most number of cases were 5 – 9 years old (29 or 43%), followed by 1 – 4 years old with (17 or 25%) (Figure 14).

Figure 14. Diphtheria Cases by Age Group and Sex, Philippines, January 1 to May 25, 2019 (N=69)



Vaccination status showed that (12 or 17%) of the reported cases received **complete 3 primary doses** of the DPT/Pentavalent vaccine. 31 (45%) 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 May 25, 2019 (N=69)

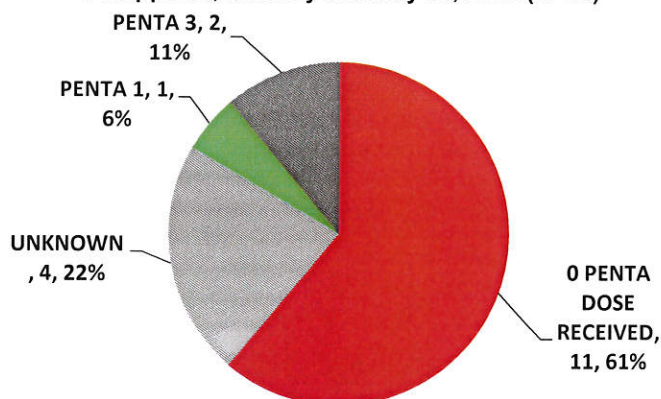
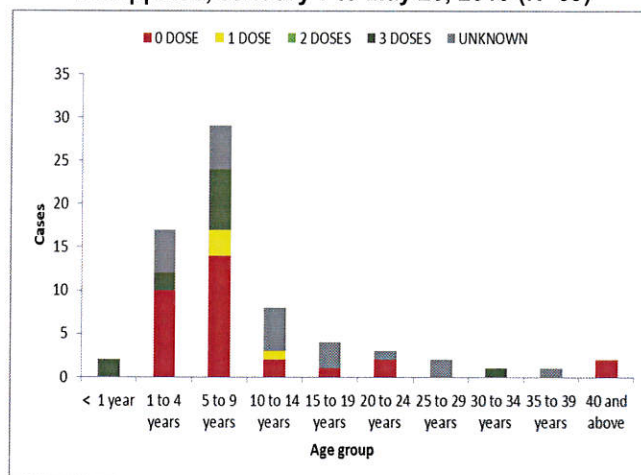


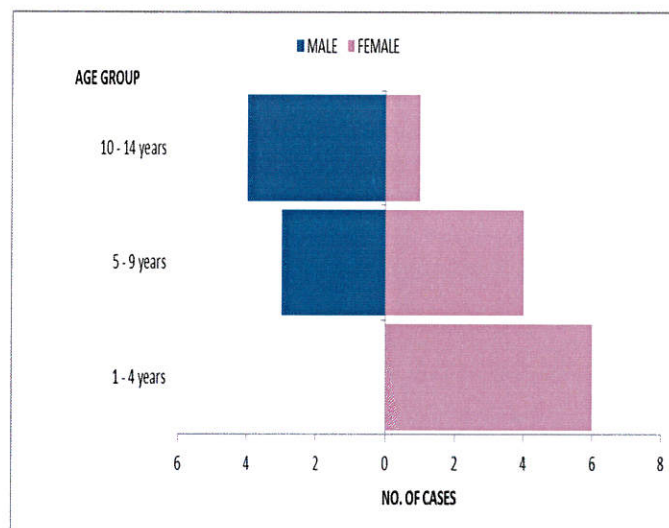
Figure 16. Diphtheria Cases by Age Group and DPT Dose Philippines, January 1 to May 25, 2019 (N=69)



B. Deaths

There were 18 deaths (CFR=26%) among the 69 reported diphtheria cases. Ages of deaths ranged from 1 to 11 years old (median age of 4 years). Age groups with the most number of deaths was 1 – 4 years 9 (50%) followed by 5 - 9 years old (8 or 44%) (Figure 17).

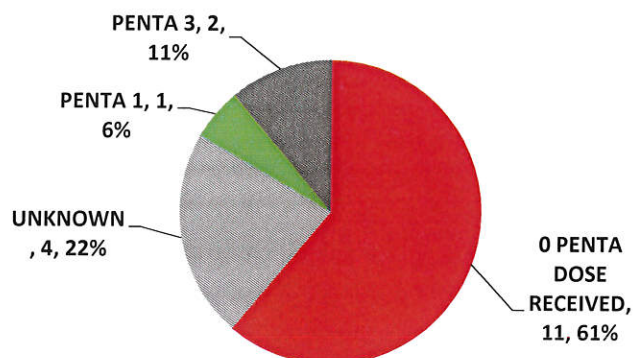
Figure 17. Reported Diphtheria Deaths by Age Group and Sex, Philippines, January 1 to May 25, 2019 (n=18)





Vaccination status showed that Majority 11 (73%) of the reported deaths did not received the DPT/Pentavalent vaccine while 1 (7%) receive 3 doses of the DPT/Pentavalent vaccine and 3 (20%) had unknown vaccination status. (Figure17).

**Figure 18. Diphtheria Deaths
by DPT Dose Received,
Philippines, January 1 to May 25, 2019 (n=18)**



C. Confirmed Cases

Four (57%) **males** and 3 (43%) **females** were laboratory confirmed diphtheria cases. Age ranges from 2 – 12 years old (median of 6 years old). 5 (71%) did not receive DPT/Pentavalent vaccine and 2 (29%) have unknown vaccination status.

D. Profile of Confirmed Diphtheria Deaths

There were Four (4) deaths among seven (7) laboratory confirmed pertussis cases. Ages of reported deaths were 2 – 6 years old (median of 3 years old). All reported laboratory confirmed deaths did not received DPT/Pentavalent vaccines.

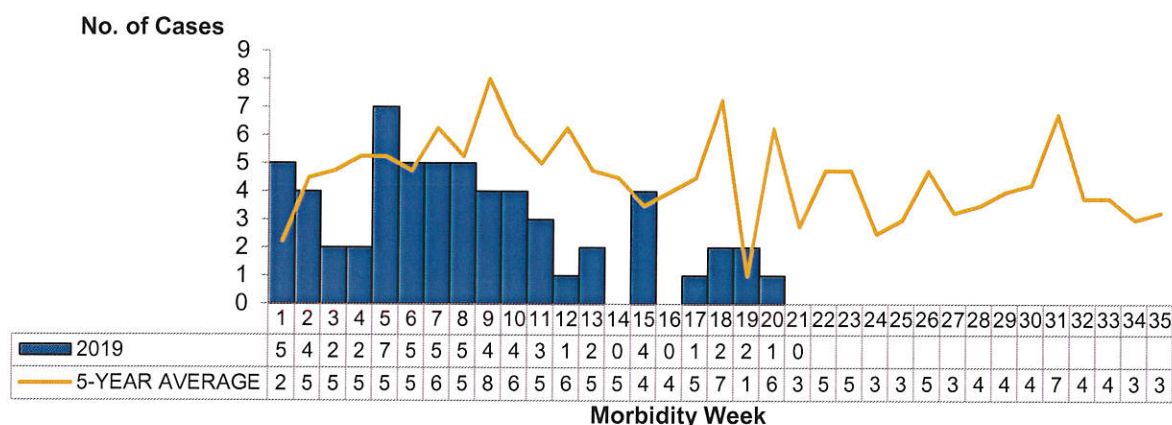


III. PERTUSSIS

Trend in the Philippines

A total of **59** pertussis cases were reported nationwide from January 1 – May 25, 2019. The distribution of pertussis cases for 2019 compared to the 5 - year average of cases from 2014 to 2018 is shown below (Figure 19).

Figure 19. Reported Pertussis Cases by Morbidity Week, Philippines, January 1 to May 25, 2019 (N=59)



Geographic Distribution

There has been a **68%** decrease among the reported pertussis cases with 182 cases in 2018 and 59 cases in 2019, same time period. Reported pertussis cases came from NCR reported to have (15 or 25%) followed by Region XI with (10 or 17%) cases (Table 5). 10 (17%) cases were confirmed out of 59 cases. Two reported Pertussis clusters identified as of May 25, 2019. A cluster is defined as two (2) or more pertussis cases from the same barangay reported within four (4) consecutive weeks.

Table 6. Reported Pertussis Cases by Region, Philippines, January 1 to May 25, 2019 (N=47) vs. January 1 to May 25, 2018

REGION	2019		2018		PERCENT CHANGE
	CASES	DEATHS	CASES	DEATHS	
PHILIPPINES	59	5	182	8	↓68
I	3	0	4	0	↓25
II	9	2	5	2	↑80
III	2	0	23	1	↓91
IV-A	8	0	25	1	↓68
MiMaRoPa	0	0	1	0	↓100
V	0	0	1	0	↓100
VI	1	0	2	0	↓50
VII	5	0	16	1	↓69
VIII	0	0	2	0	↓100
IX	0	0	0	0	-
X	2	1	3	0	↓33
XI	10	1	20	2	↓50
XII	1	0	1	0	0
ARMM	0	0	3	0	↓100
CAR	3	0	22	1	↓86
Caraga	0	0	8	0	↓100
NCR	15	1	46	0	↓67

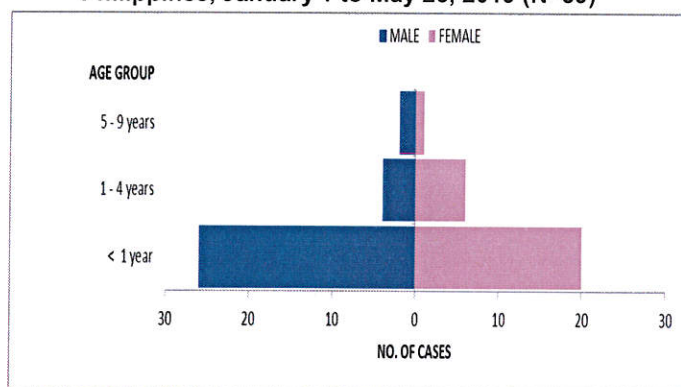


Profile of Cases

A. Cases

There were **32 males (54%)** and **27 females (46%)** among the reported pertussis cases. Age of cases ranged from **<1 month to 7 years old** (median: 3 months). Age groups with most number of cases were **below 1 year old** with (46 or 78%) followed by 1 – 4 years old with (10 or 17%) (Figure 20).

Figure 20. Pertussis Cases by Age Group and Sex, Philippines, January 1 to May 25, 2019 (N=59)



Vaccination status showed that **(9 or 19%)** of the reported cases received **complete 3 primary doses** of the DPT/Pentavalent vaccine. 21 (45%) did not receive a dose of the DPT/Pentavalent vaccine. Seven (15%) have unknown dose received and Seven (15%) received only 1 dose. (Figure 20).

Figure 21. Reported Pertussis Cases by DPT Dose Received, Philippines, January 1 to May 25, 2019 (N=59)

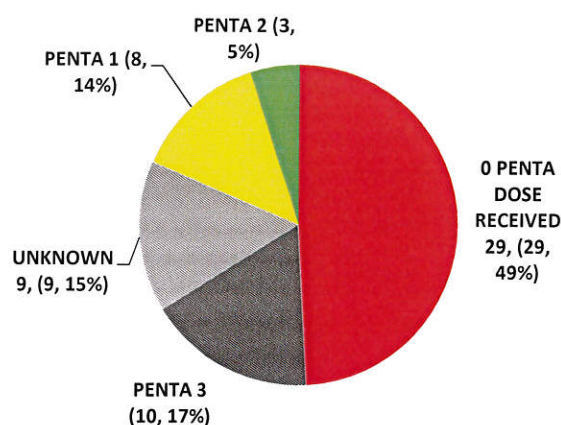
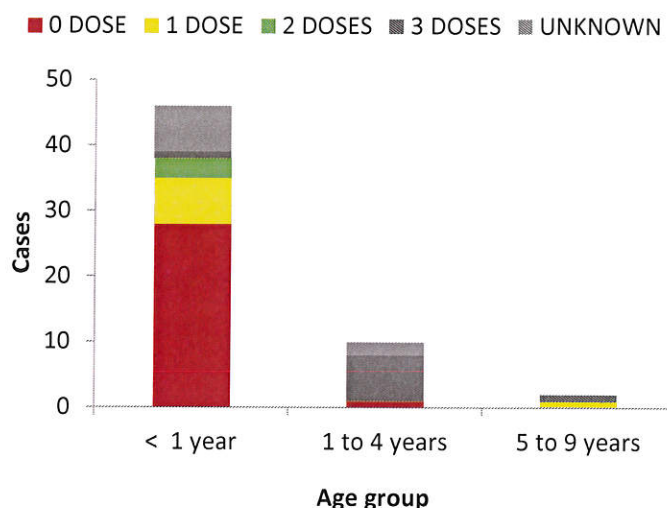


Figure 22. Reported Pertussis Cases by Age Group and DPT Dose Received, Philippines, January 1 to May 25, 2019 (N=59)



B. Deaths

There were **five (5)** deaths (CFR=8%) among the 59 reported pertussis cases. Ages: less than 1 month – 2 months old (median: 2 months)

Vaccination status showed that (3 or 60%) of the reported deaths did not received the DPT/Pentavalent vaccine and (2 or 40%) have unknown vaccination status.

C. Confirmed Cases

Three (3) **males** and Seven (7) **females** were laboratory confirmed pertussis cases. Age ranges from 1 month – 4 years old (median 2 months old). Six (60%) of the confirmed cases **were not vaccinated** and **(2, 20%) received 1 and 3 doses of DPT/Pentavalent vaccine.**

D. Profile of a Confirmed Pertussis death

There was one (1) death among seven (7) confirmed pertussis cases. Age of death was 2 months old.

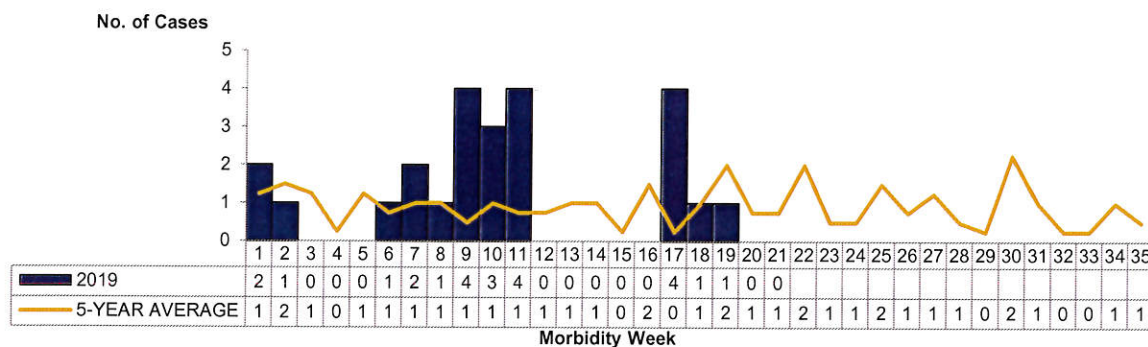


IV. NEONATAL TETANUS

Trend in the Philippines

A total of **24** clinically confirmed neonatal tetanus (NT) cases were reported nationwide from January 1 – May 25, 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 23. Neonatal Tetanus Cases by Morbidity Week, Philippines, January 1 to May 25, 2019 (N=24)



Geographic Distribution

There has been no change of reported neonatal tetanus cases from 24 cases in 2018 to 24 cases in 2019, same time period. Most reported cases were from **ARMM (8 or 33%)** **MIMAROPA** with (6 or 25%), while Region XII have (4, 17%) 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 April 27, 2019 (N=4) vs. January 1 to April 27, 2018

REGION	2019			2018		
	Cases for MW 17	Annualize NT Rate >1/1000 LB	Deaths	Cases for MW 17	Annualize NT Rate >1/1000 LB	Deaths
PHILIPPINES	24	0.011	11	24	0.008	13
I	0	0.000	0	1	0.007	0
II	1	0.014	0	0	0.000	0
III	0	0.000	0	2	0.006	1
IV-A	2	0.006	1	2	0.005	1
MiMaRoPa	6	0.085	2	1	0.012	0
V	1	0.007	1	0	0.000	0
VI	2	0.013	2	2	0.010	2
VII	0	0.000	0	1	0.005	1
VIII	0	0.000	0	0	0.000	0
IX	0	0.000	0	0	0.000	0
X	0	0.000	0	4	0.030	3
XI	0	0.000	0	0	0.000	0
XII	4	0.036	3	2	0.015	1
ARMM	8	0.083	2	5	0.045	1
CAR	0	0.000	0	0	0.000	0
Caraga	0	0.000	0	3	0.041	2
NCR	0	0.000	0	1	0.003	1

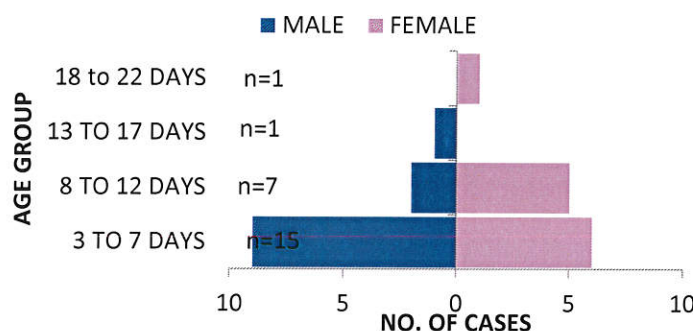


Profile of Cases

A. Age group and Sex

Among the clinically-confirmed NT cases, Twelve (50%) **male** and Twelve (50%) **female**. Age of cases ranges from 4 – 19 days old (median age of 7 days old). (Figure 23).

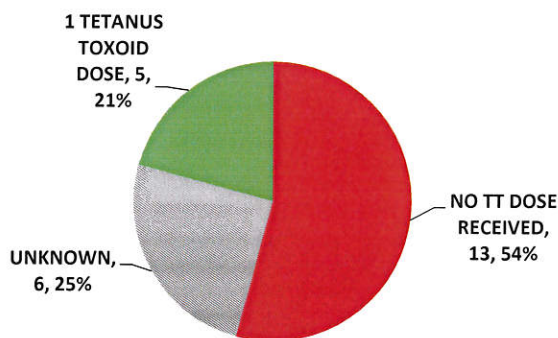
Figure 24. Clinically Confirmed Neonatal Tetanus Cases by Age Group and Sex, Philippines, January 1 to May 25, 2019 (N=24)



B. Vaccination Status

Thirteen (54%) of the mothers of clinically confirmed cases **did not receive any dose of the tetanus toxoid vaccine**, followed with unknown vaccination status (56 or 25%) and 5 or 21%) received one dose of tetanus toxoid. (Figure 24).

Figure 25. Clinically Confirmed Neonatal Tetanus Cases by Vaccination Status, Philippines, January 1 to May 25, 2019 (N=24)



C. Delivery Practices among Clinically Confirmed Neonatal Tetanus Cases

In terms of delivery practices, Majority (22 or 92%) of the neonatal tetanus cases were delivered at home. Ten (42%) of the cases were attended by a traditional birth attendant, (4 or 17%) by a hilot, (5 or 21%) by a lay-person, and (4 or 17%) unknown. Eleven (46%) had blade, (7 or 29%) bamboo and (3 or 13%) scissors used as the common cord cutting t9 (38%) while (5 or 21%) used other materials and (10 or 42%) was unknown (Table 8).

Table 8. Delivery Practices of Clinically Confirmed Neonatal Tetanus Cases, Philippines, January 1 to May 25, 2019 (N=24)

Delivery Practices	No. of Cases	Percentage
Place of Delivery		
Home	22	92%
Hospital	1	4%
Lying-in	1	4%
Delivery Attendant		
TBA	10	42%
Physician	1	4%
Hilot	4	17%
Lay-person	5	21%
Unknown	4	17%
Cord Cut Tool Used		
Blade	11	46%
Bamboo	7	29%
Scissors	3	13%
Unknown	2	8%
Others	1	4%
Stump Treatment Used		
Alcohol	9	38%
Others*	5	21%
Unknown	10	42%

*Other stump treatment material include hot water and powdered coconut shell

Profile of Neonatal Tetanus Deaths

There were 11 deaths (CFR=46%) among the 24 neonatal tetanus cases. Ages of deaths ranges from 5 – 10 days old. Mother of reported deaths (5, 45%) had unknown vaccination status, (5 or 46%) did not received any dose, and (1 or 9%) receive one dose of Tetanus Toxoid.



D. Neonatal Tetanus Surveillance Indicators by Regions

The Philippines has a reporting rate of 40% which is still below the target of $\geq 80\%$. Consequently, none of the regions achieved the target as well. This is contrary to the NT Investigation rate which the Philippines and all regions with reported cases achieved 100% performance. (Table 9)

Table 9. Neonatal Tetanus Surveillance Indicators by Region
Philippines, January 1 to May 25, 2019 (N=24)

REGION	Clinically Confirmed Neonatal Tetanus Cases		
	NT Rate(1<(1,000LB)	TIMELINESS OF REPORTING	TIMELINESS OF INVESTIGATION
PHILIPPINES	0.008	REPORTING RATE ($\geq 80\%$)	INVESTIGATION RATE($\geq 80\%$)
I	0.000		
II	0.010		
III	0.000		
IV-A	0.005	0%	100.00%
MiMaRoPa	0.072	20%	100.00%
V	0.006		
VI	0.010	50%	100.00%
VII	0.000		
VIII	0.000		
IX	0.000		
X	0.000		
XI	0.000		
XII	0.031	50%	100.00%
ARMM	0.072	38%	88.00%
CAR	0.000		
Caraga	0.000		
NCR	0.000		

LEGEND:	<1/1,000 LB	<80%	$\geq 80\%$
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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.

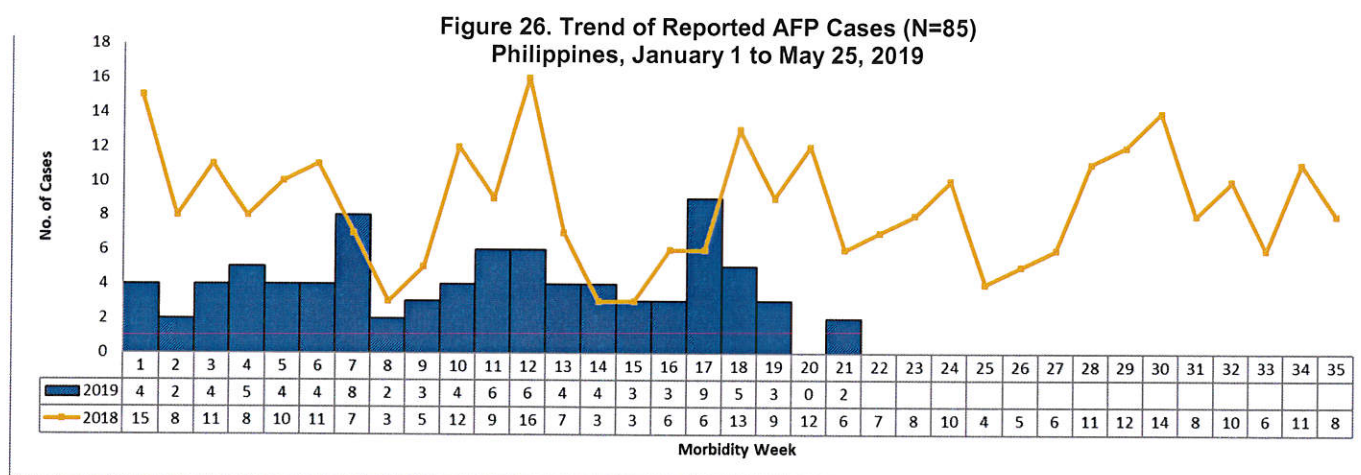


V. ACUTE FLACCID PARALYSIS

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 **85 AFP** cases were reported nationwide from January 1 to May 25, 2019. The distribution of AFP cases for 2019 compared to 2018 is shown below (Figure 25).



Geographic Distribution

A total of 85 AFP cases were reported from January to May 25, 2019. Among the 85 reported AFP cases, 15 (18%) were discarded as non-polio AFP, while 67 (79%) are still pending for 60-day follow-up, expert panel review and for official laboratory result. There were 3 (4%) reported cases that did not fit the case definition and were classified as *not AFP* (Table 9).

Table 10. Reported AFP Cases by Region and Classification
January 1 to May 25, 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	
PHILIPPINES	688	344	85	15	3	67	18
I	32	16	4	1	0	3	1
II	22	11	0	0	0	0	0
III	72	36	7	0	0	7	0
IV-A	96	48	12	2	0	10	2
MiMaRoPa	22	11	0	0	0	0	0
V	44	22	4	1	0	3	1
VI	48	24	14	3	0	11	3
VII	51	25	4	1	0	3	1
VIII	32	16	7	2	1	4	3
IX	27	13	5	2	0	3	2
X	34	17	2	0	0	2	0
XI	34	17	5	2	0	3	2
XII	34	17	7	0	0	7	0
ARMM	36	18	2	0	0	2	0
CAR	11	6	3	1	0	2	1
Caraga	19	9	0	0	0	0	0
NCR	74	38	9	0	2	7	2

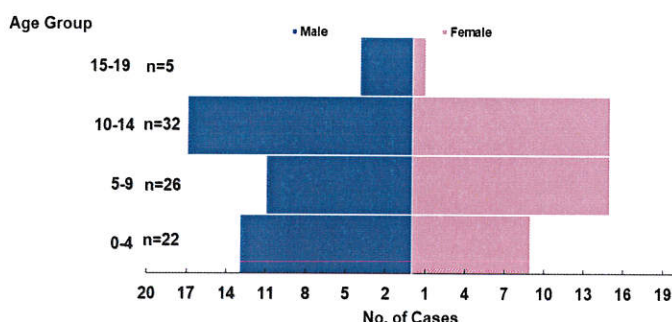


Profile of Cases

A. Age group and Sex

Forty-five (53%) are males while 40 (47%) are females. Age ranges from 3 months to 16 years (median age of 8 years old). Thirty-two (38%) of the AFP cases reported belong to 10-14 age group (Figure 26).

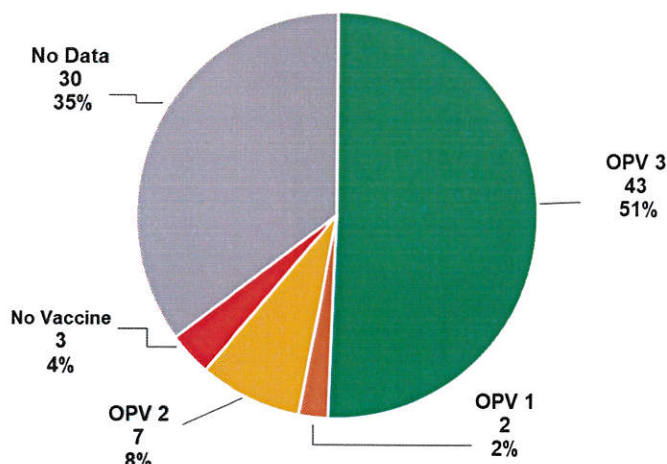
Figure 27. AFP Cases by Sex and Age Group (N=85)
Philippines, January 1 to May 25, 2019



B. Vaccination Status

Among the 85 reported AFP cases, 43 (51%) completed 3 doses of OPV, 7 (8%) had OPV 2 and 2 (2%) had OPV 1. Thirty (35%) had no data (Figure 27).

Figure 28. Vaccination Status of AFP Cases (N=85)
Philippines, January 1 to May 25, 2019



C. Laboratory Status

There were no isolated wild or vaccine-derived poliovirus from January 1 to May 25. Stool 1 was collected in 79 (93%) AFP cases and stool 2 in 76 (89%) of AFP cases. Two cases had poliovirus Sabin-like type 3 isolated (Table 10).

Table 11. Laboratory Status of Reported AFP Cases (N=85)
Philippines, January 1 to May 25, 2019

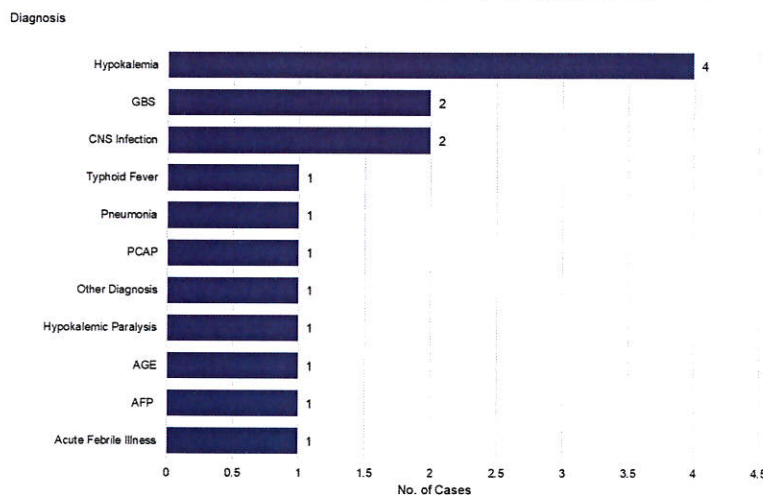
Stool Specimen Result	Stool Specimen 1		Stool Specimen 2	
Total	79	93%	76	89%
Negative for poliovirus	21	27%	19	25%
Others				
Poliovirus (Sabin-Like)*	2	3%	2	3%
Non-polio enterovirus (NPEV)	1	1%	2	3%
Pending Lab Results	55	70%	53	70%

* 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 5%). However, there are 69 (81%) cases with incomplete data. (Figure 29)

Figure 29. AFP Cases by Differential Diagnosis (n=16)
Philippines, January 1 to May 25, 2019



*69 cases with incomplete data



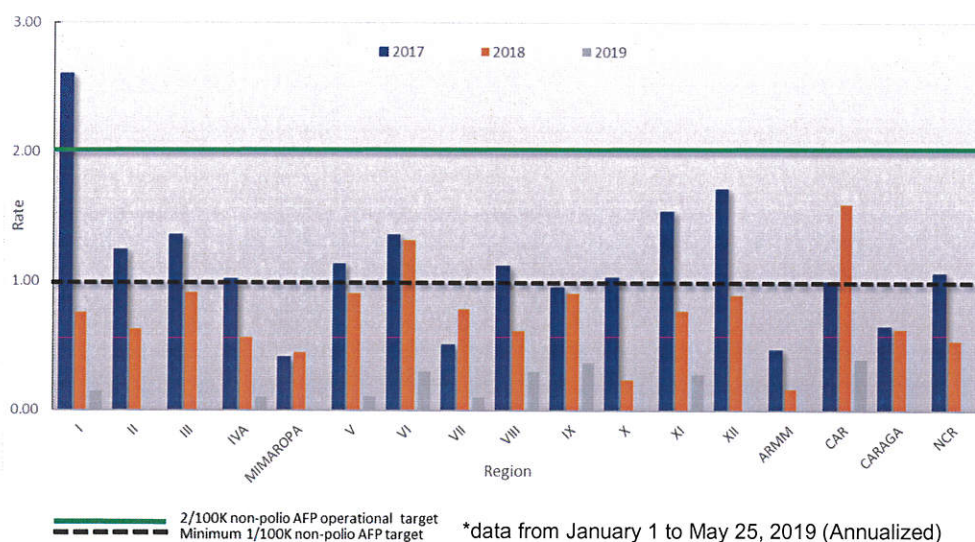
SURVEILLANCE PERFORMANCE INDICATORS – AFP REPORTING RATE AND NON – POLIO AFP RATE

From January 1 to May 25, 2019, there were **85** AFP cases reported, providing the Philippines an annualized reporting rate of 0.59 / 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 0.10 / 100,000 population of children under 15 years of age. No one reached the target. (Figure 30 & Table 11)

TABLE 12. REPORTING AND NON-POLIO AFP RATE AS OF MW 1-21

REGION	Annualized Reporting Rate	Annualized Non-Polio AFP Rate
PHILIPPINES	0.59	0.10
I	0.60	0.15
II	0.00	0.00
III	0.47	0.00
IV-A	0.60	0.10
MiMaRoPa	0.00	0.00
V	0.44	0.11
VI	1.40	0.30
VII	0.38	0.10
VIII	1.05	0.30
IX	0.92	0.37
X	0.28	0.00
XI	0.71	0.28
XII	0.99	0.00
ARMM	0.27	0.00
CAR	1.20	0.40
Caraga	0.00	0.00
NCR	0.57	0.00

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

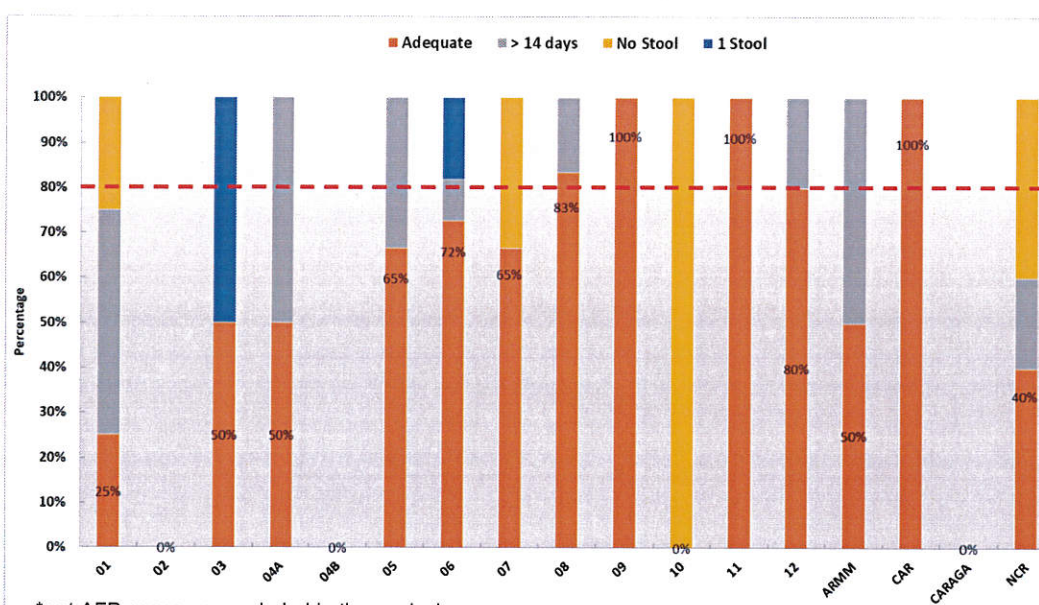


SURVEILLANCE PERFORMANCE INDICATORS – STOOL SPECIMEN ADEQUACY RATE

All AFP cases should have full clinical and virological investigation with at least 80% of AFP cases having adequate stool specimens collected. Among the **82 non-polio and pending** AFP cases, **37 (45%) cases** have 2 stool specimens collected within 14 days from the onset which gives us an adequacy rate of 45% (Table 12). A portion, **9 cases** or 11% had 2 stool specimen collected beyond the required collection period. Among the 17 Regions, **2 Regions** have reached or surpassed the target rate of 80%.

Figure 31. STOOL SPECIMEN ADEQUACY RATE BY REGION, PHILIPPINES, January 1 – May 25, 2019

TABLE 13. STOOL SPECIMEN ADEQUACY RATE OF MW 1-21



Region	Stool Specimen Adequacy Rate
PHILIPPINES	45
I	25
II	-
III	14
IV-A	8
MiMaRoPa	-
V	50
VI	57
VII	50
VIII	83
IX	60
X	-
XI	100
XII	57
ARMM	50
CAR	67
Caraga	-
NCR	29

Legend:

Reached or surpassed target
Nearly reached target
Substantially below target

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.



Epidemiology Bureau
Public Health Surveillance Division

January to May 2019

ANNEX A. CLUSTER OF DIPHTHERIA CASES

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

CLUSTER OF PERTUSSIS CASES

MORBIDITY WEEK	REGION	PROVINCE	MUNCITY	BARANGAY	CASES	
					CONFIRMED	SUSPECT
5-6	XI	DAVAO DEL SUR	DAVAO CITY	LEON GARCIA SR.	1	2
6-8	CAR	BENGUET	BAGUIO	BAKAKENG CENTRAL	1	2