



ACUTE FLACCID PARALYSIS (AFP) SURVEILLANCE

Morbidity Week 52

January 1— December 31, 2016

Epidemiology Bureau

Public Health Surveillance Division

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.

From January 1 to December 31, a total of **434** AFP cases were reported; with **368 (85 %)** cases classified as non-polio AFP, **29 (7 %)** of the cases still pending for classification and **37 (9 %)** classified as not AFP. This provides the Philippines an annualized non-polio AFP rate of **0.94** per 100,000 children below 15 years old which is below the minimum required target of 1/100,000 population of <15 y/o. At present, only **8 out of the 17** regions were able to reach and surpass the minimum target for non-polio AFP.

The country remains at risk for poliovirus importation due to low immunization coverage, weak surveillance system and threats of importation from other endemic countries. Due to being at risk for importation, the indicator for surveillance sensitivity was increased from one to two cases of non-polio acute flaccid paralysis (AFP). Failure to reach the target requirement means that the system is not sensitive enough to detect AFP cases.

All AFP cases should have full clinical and virological investigation with at least 80% of AFP cases having adequate stool specimens collected. From 2014-2016, the country failed to reach the 80% benchmark; with only 5 regions reaching the target at present.

At least 80% of expected routine AFP surveillance reports should be received on time, including zero reports where no AFP cases are seen. From January to December 31, at least **87%** of the AFP cases were timely reported and **94%** were timely investigated.

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

Figure 1. Non-polio AFP rate (per 100,000 persons < 15 years of age), 2014-2016*

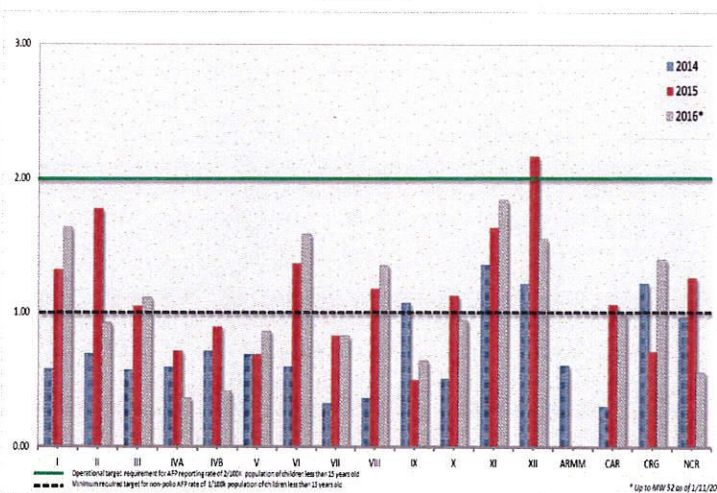


Figure2. Adequate specimen collection rate, 2014-2016*

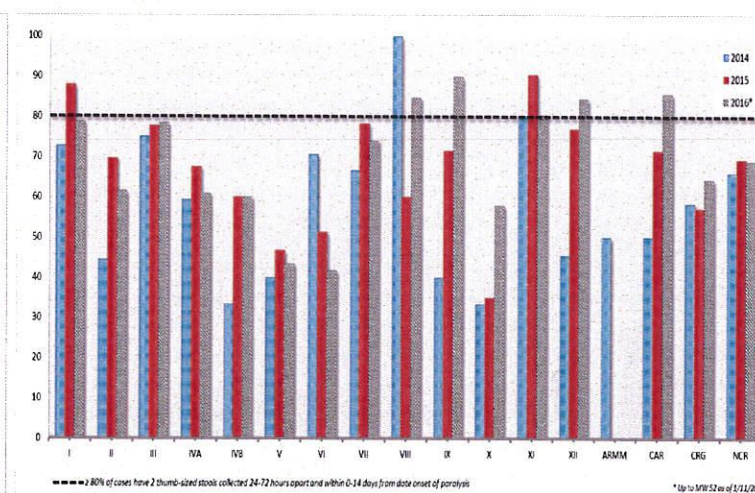


Figure 3. Percent distribution of AFP cases according to timeliness of report by region, 2016*

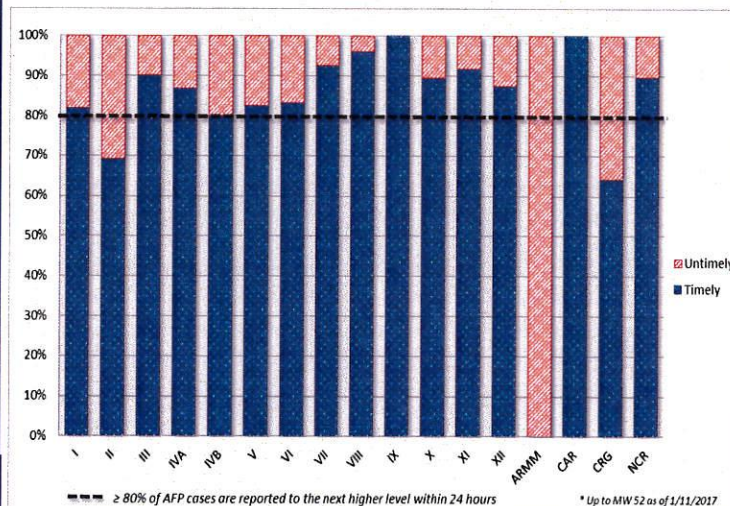
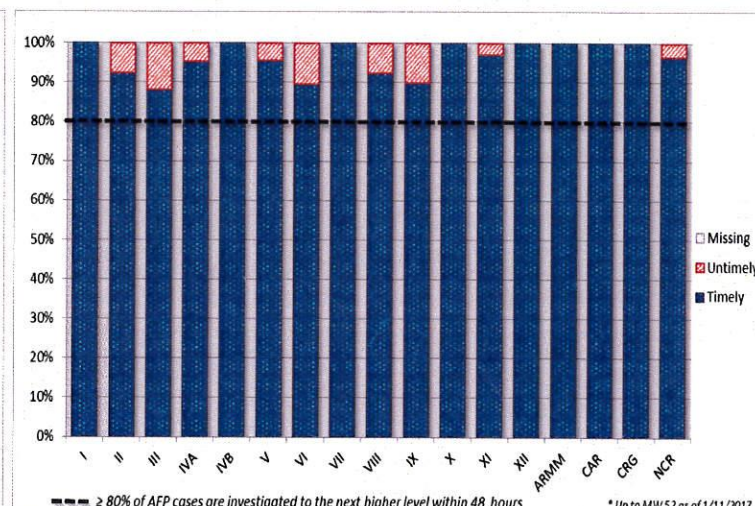


Figure 4. Percent distribution of AFP cases according to timeliness of investigation by region, 2016*





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Information on the OPV doses of reported cases are also monitored to inform EPI coordinators to use this supplemental data in choosing appropriate strategies on targeting specific age groups for immunization and know which regions/provinces are at high risk for possible poliovirus transmission. At present, only **67%** of children under 5 and **64%** children above 6 years old received 3 doses of OPV. Among the 17 regions, only 2 Regions reached 80% and above of the reported cases with complete OPV dose and the majority are either with incomplete or unknown OPV dose.

Table 1 shows that among the **397** reported AFP cases, **343 (86%)** turned out negative for poliovirus isolate, while **28 (7%)** of the cases that experienced acute flaccid paralysis turned out positive for non-polio Enteroviruses (NPEV). Five cases had PV type 1, 2 and 3 isolates (sabin-like) and were discarded as non-polio after in-depth investigation. **Three (3)** of the **five (5)** cases with sabin-like isolates came from different provinces in Region 4A.

AFP cases with inadequate stool specimen should have a 60-day follow-up assessment from the date onset of paralysis to check for presence of residual paralysis; which is based on the WHO classification scheme for AFP (Figure 8, page 3). A total of **151** cases had inadequate stool specimen; and among these, **42** cases did not develop residual paralysis. **Seventy-six (76)** of the cases however had no 60 day follow up; out of the 76 cases without follow-up, **37** were discarded as non-polio while **16** were considered as not AFP by the expert panel committee. Among those cases that either had residual paralysis, died or were lost to follow-up, **22** were discarded as non-polio and **9** were considered as not AFP during the expert panel review. As of MW 52, there are **29** cases for review.

Since the wild poliovirus (WPV) type 2 was eradicated in 1999, incidence of neuro-virulent circulating vaccine-derived poliovirus type 2 (cVDPV 2) around the globe led to the recommendation of global cessation of use of type 2 component of oral polio vaccine (OPV). Last April 27, 2016 the country has successfully implemented the synchronized switch from trivalent OPV (tOPV) to bivalent OPV (bOPV).

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Figure 5. Percentage of reported AFP cases by number of polio vaccination doses and age group, 2016 (MW 52)

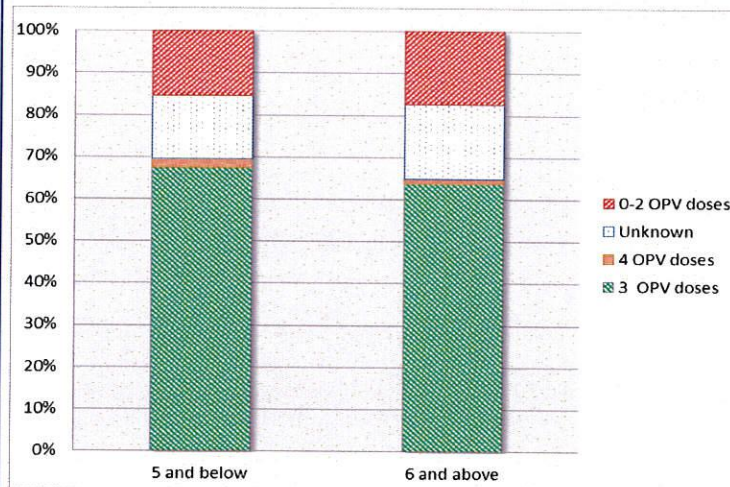


Figure 6. Percentage of reported AFP cases by number of polio vaccination doses and region, 2016 (MW 52)

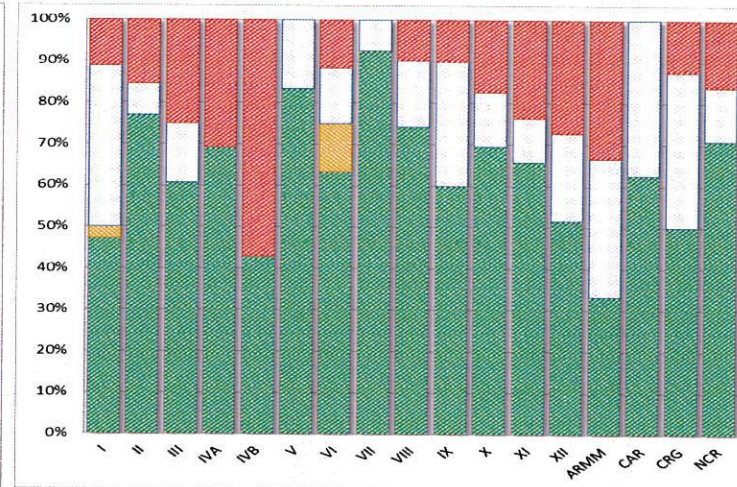
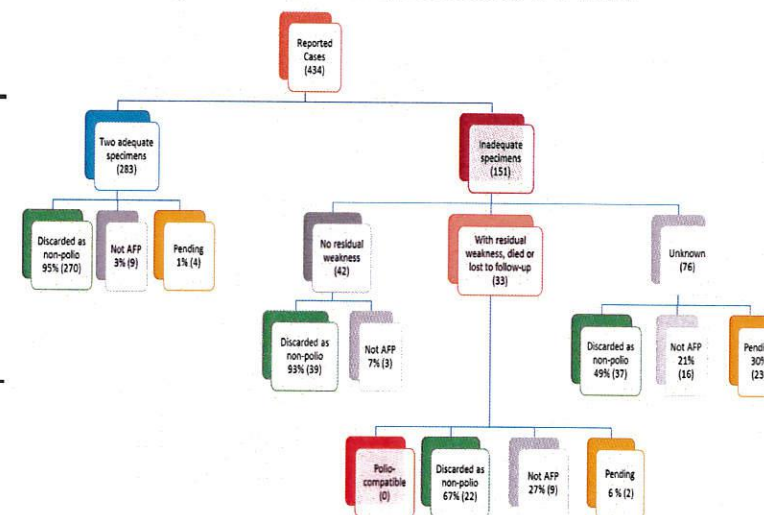


Table 1. Stool specimen result among reported AFP cases, as of MW 52

Stool Specimen Result	Reported Cases	Percentage
Poliovirus Negative	343	86
NPEV	28	7
No specimen	15	4
Pending	5	1
Sabin-like	5	1
Not tested*	1	0
Poliovirus Positive	0	0
VDPV	0	0
Total	397	100

*Different type of specimen sent

Figure 7. Total AFP cases by classification, as of MW 52





The first links in the surveillance chain are the staff in all health facilities; from district health centers to large hospitals. In addition, public health staff make regular visits to hospitals to search for AFP cases which may have been overlooked or misdiagnosed (*The Global Polio Eradication Initiative, 2010*).

In the Philippines, **76%** of the AFP cases that were detected from January 1-December 31 came from the government hospitals, while 17% were detected from private hospitals. There were only a few cases that were detected at the RHU, MHO and CHO level.

The differential diagnosis of AFP includes but is not limited to, poliomyelitis, GBS¹, traumatic neuritis and transverse myelitis. These four are the common diseases that represent the most common causes of AFP; however, there are other differential diagnosis that have numerous etiologies. Hence, any diseases that presents as AFP, even if diagnosed as disease other than polio by the physician should be reported, collected with specimen and investigated. Figure 10 shows the ten most reported AFP cases by differential diagnosis.

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Figure 8. WHO Classification Scheme for AFP

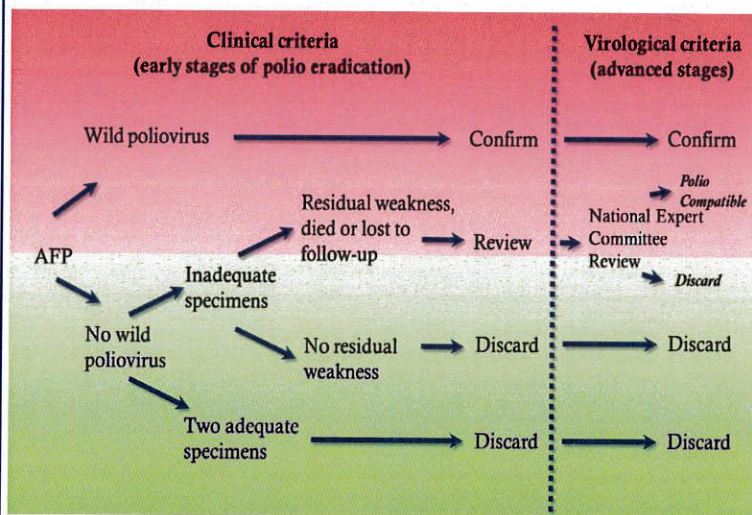


Figure 9. Types of Disease Reporting Units (DRUs), 2016*

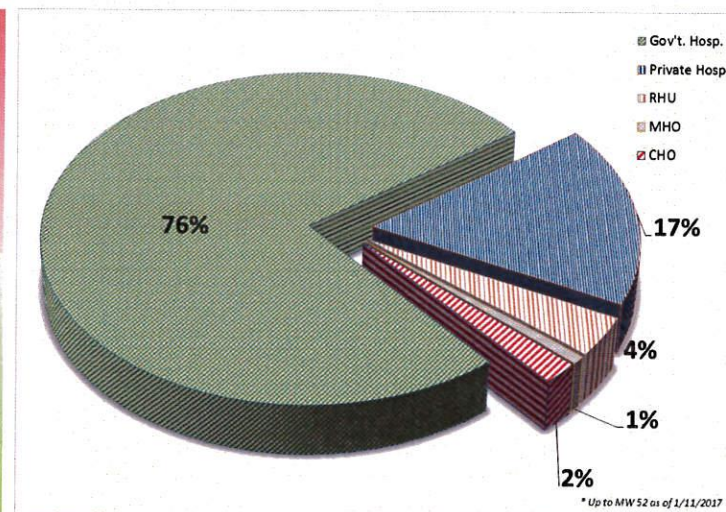
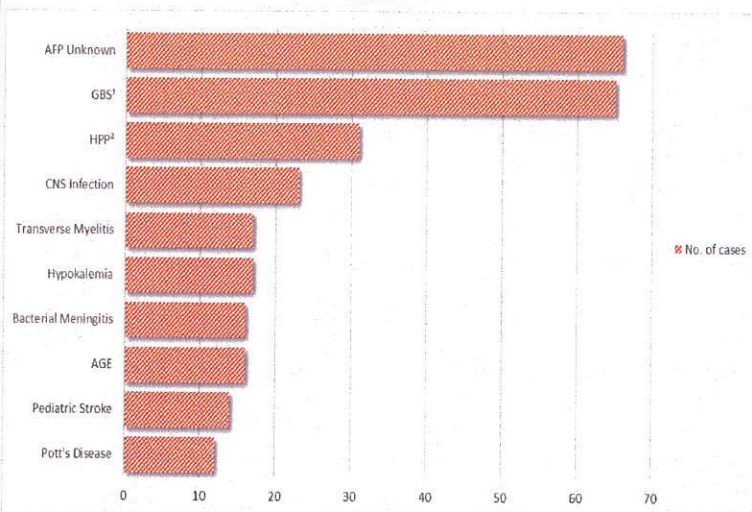


Figure 10. Ten Most Reported AFP Cases by Differential Diagnosis, MW 52



¹ Guillain-Barre Syndrome, ² Hypokalemic-Periodic Paralysis



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Table 2. Classification of AFP cases and key surveillance indicators per Region

January 1 - December 31, 2016 (MW 52 as of 1/11/2017)												
REGION	Expected AFP Rate 2016 2/100k	Expected AFP Rate 2016 1/100k	Reported Cases	Classification			Total Number of Classified Cases	Performance Indicators (Non-Polio AFP Cases)				
				Non-Polio (Discarded)	NOT AFP	Pending		Annualized Reporting Rate	Annualized Non-Polio AFP Rate	Adequacy of Stool Specimen	Timeliness of Reporting	Timeliness of Investigation
								AFP cases reported in a specified period	Discarded as non-polio AFP cases in a specified period	≥80 % of AFP cases with adequate stool specimen collected	≥80 % of AFP cases reported within 14 days of onset	≥80 % AFP cases investigated within 2 days of report
Region I	39	19	36	31	3	2	34	1.74	1.63	79	82	100
Region II	27	13	13	12	0	1	12	1.00	0.92	62	69	92
Region III	88	44	56	49	5	2	54	1.16	1.11	78	90	88
Region IVA	115	58	26	21	3	2	24	0.40	0.36	61	87	87
Region IVB	23	12	7	5	2	0	7	0.42	0.42	60	80	100
Region V	45	22	24	19	1	4	20	1.05	0.86	43	83	91
Region VI	59	29	52	46	4	2	50	1.66	1.59	42	83	90
Region VII	57	29	27	24	0	3	24	0.93	0.83	74	93	96
Region VIII	34	17	31	23	5	3	28	1.53	1.35	85	96	92
Region IX	29	14	10	9	0	1	9	0.71	0.64	90	100	90
Region X	37	18	23	17	4	2	21	1.06	0.94	58	89	95
Region XI	38	19	38	35	2	1	37	1.89	1.84	81	92	97
Region XII	36	18	33	28	1	4	29	1.78	1.56	84	88	100
ARMM	27	14	3	0	2	1	2	0.07	0.00	0	0	100
CAR	14	7	8	7	1	0	8	1.00	1.00	86	100	100
CARAGA	20	10	16	14	2	0	16	1.40	1.40	64	64	100
NCR	100	50	31	28	2	1	30	0.58	0.56	69	90	93
PHIL	788	393	434	368	37	29	405	1.01	0.94	69	87	94

Reporting Rate: Target of 2/100K population of children less than 15 years old

Non-Polio AFP Rate: Target of 1/100k population of children less than 15 years old

Non-Polio (Discarded): AFP cases classified by the expert panel committee as non-polio in which the paralysis is not caused by poliovirus

Not AFP: Reported AFP cases that did not fit the case definition of AFP

Legend:

Green	Reached or surpassed target
Yellow	Nearly reached target: 0.5-0.99 for non-polio AFP target; 60-79% for other indicators
Red	Substantially below target

Acute flaccid paralysis (AFP) case	Refers to any child less than 15 years of age with acute onset of floppy paralysis, or a person of any age in whom poliomyelitis is suspected by a physician.
Cluster of AFP cases	Refers to the occurrence of two or more AFP cases in one province or city with the date of paralysis onset of within 1 month of each other.
Circulating Vaccine-derived poliovirus (cVDPV)	Refers to a sub-classification of VDPV found in areas with gaps in OPV coverage; considered in the context of person-to-person transmission when non-identical but related VDPVs are identified in at least 2 AFP cases.
Confirmed polio	Refers to an AFP case that was laboratory-confirmed with wild poliovirus.
Discarded as non-polio	Refers to AFP cases classified by the expert panel committee as non-polio in which the paralysis is not caused by poliovirus.
Epidemiology	Refers to the study of the distribution and determinants of health-related states or events in specified populations, and the application of this study to the control of health problems.
Epidemiology and Surveillance Unit (ESU)	Refers to the unit established in the Regional Offices (ROs), Provincial Health Offices (PHOs), City Health Offices (CHOs) and Rural Health Units (RHUs) that provide services on public health surveillance and epidemiology.
Hot case	Refers to an AFP case that is less than 5 years old, with less than 3 doses of OPV and has fever at the onset of asymmetrical paralysis; OR an AFP case or a person of any age whose stool specimen/s has poliovirus isolate.
Non-polio Enterovirus	Refers to enterovirus (i.e. echovirus, coxsackie virus) other than poliovirus isolated from specimens.
Oral poliovirus vaccine (PV)	Refers to an attenuated vaccine administered orally that protects against either one (mOPV), two (bOPV) or three (tOPV) serotypes of poliovirus present in the formulation.
Philippine Integrated Disease Surveillance and Response (PIDSUR)	Refers to the system whose framework embodies integrated functional disease surveillance and response system institutionalized from the national level down to the community level.
Polio compatible	Refers to an AFP case which does not have an adequate stool collected, died or was lost to follow-up.
Sabin-like	Refers to an AFP case with isolates consistent with a limited period of virus excretion or person-to-person transmission demonstrating less than 1% difference from parent OPV strains for poliovirus types 1 and 3, and less than 0.6 % difference from the type 2 OPV strain by full Viral Protein 1 sequence homology.
Vaccine-derived poliovirus (VDPV)	Refers to live, attenuated strains of the vaccine poliovirus that have undergone mutation and recombination and differ from (original) Sabin strains by 1 to 15% of VP1 nucleotides, the extent of genetic change of which is indicative of prolonged replication.
Vaccine-associated paralytic poliomyelitis (VAPP)	Refers to the only rare adverse event associated with OPV use which may occur in vaccine recipients or their contacts. The onset of symptoms with VAPP usually occurs 4-30 days following receipt of OPV or within 4-75 days after contact with a recipient of OPV. In immune-deficient individuals, VAPP may occur outside these windows.
Wild poliovirus (WPV)	Refers to the wild poliovirus that is targeted for global eradication consisting of three types: poliovirus type 1, 2 and 3.


IRMA L. ASUNCION, MD, MHA, CESO IV
 Director IV, Epidemiology Bureau


GENESIS MAY J. SAMONTE, MD, MSc, PHSAE
 Division Chief, PHSD


JUNE CANTATA B. CORPUZ, RN
 PIDSUR Program Manager


JEZZA JONAH D. CRUCENA, RN
 VPDS National Coordinator


ALLAN P. IGNACIO
 Statistician II

CONTACT US:

 episodoh@gmail.com
 651-7800 local 2930