



Background:

Japanese encephalitis (JE) is a mosquito-borne flavivirus, and belongs to the same genus as dengue, yellow fever and West Nile viruses. JE is the main cause of viral encephalitis in many countries of Asia. In the Philippines, JE was found to be endemic with an extensive geographic range. JE virus was the causative agent in 7% to 18% of cases of clinical meningitis-encephalitis, and 16% to 40% of clinical encephalitis cases. In addition, JE predominantly affects children under 15 years of age and 6% to 7% of cases resulted in deaths.¹ In 2015, Acute Meningitis Encephalitis Surveillance (AMES) was initiated in nine sentinel hospitals.

PIDSR Case Definition:

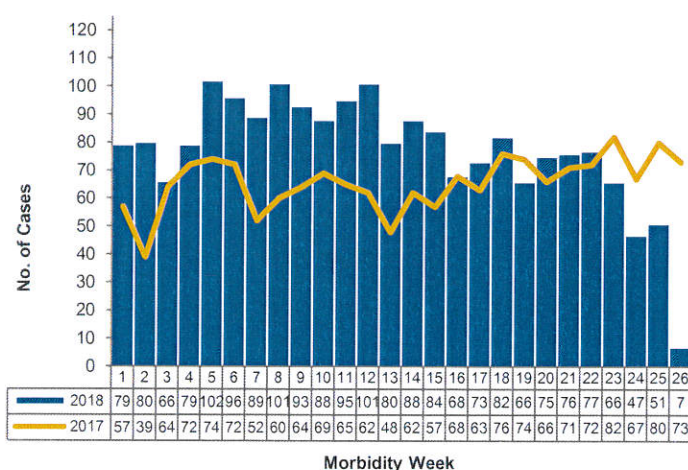
Japanese encephalitis cases are captured under AMES, which comes from the combined surveillance data of AMES from the sentinel sites, and the surveillance data of Acute Encephalitis Syndrome (AES) and Bacterial Meningitis (BM). The case definition for AMES shall be the combined case definition of AES and BM.

Case Classification	Criteria
Suspected AMES Case	a person of any age, with acute onset of fever and at least one of the ff.: <ul style="list-style-type: none">- Change in mental status (including altered consciousness, confusion, or inability to talk)- New onset of seizures (excluding simple febrile seizures)- Neck stiffness or other meningeal signs (Kernig's sign, Brudzinksi's sign, bulging fontanel, etc.)- Case diagnosed by the physician as either encephalitis or meningitis
Probable JE	a suspected case that occurs in close geographical and temporal relationship to a lab-confirmed case of JE, in the context of an outbreak
Lab-confirmed JE	a suspected case that has been lab-confirmed as JE, by detecting presence of JE virus- specific IgM antibody in a single sample of CSF or serum, as detected by an IgM capture of ELISA
AES – other agent	a suspected case in which diagnostic testing is performed and an etiologic agent other than JE virus is identified
AES – unknown	a suspected case in which testing was performed but no etiologic agent was identified or in which the test results were indeterminate

Trends in the Philippines

A total of **2,009** AMES cases were reported from January 1 to June 30, 2018 or Morbidity Weeks 1 to 26 (Figure 1). This is **18% higher** than that of the same reporting period last year (N=1,709).

Figure 1. Reported AMES cases by Morbidity Week (N=2,009)
Philippines, Jan 1 - Jun 30, 2018 vs 2017 same time period



Editorial Board

FERCHITO L. AVELINO, MD, PHSAE
OIC- Director IV, Epidemiology Bureau

MA. NEMIA SUCALDITO, MD, PHSAE
Medical Officer V

VIKKI CARR D. DELOS REYES, MD, PHSAE
Medical Specialist III

MARIEL A. DEJESA, MD, MPM
Medical Officer IV, PHSD

HERDIE L. HIZON
PIDSR Data Manager

JEZZA JONAH C. ACLAN, RN
Nurse III, VPDS National Coordinator

Prepared by:

ALYSSA FEB D. SANCHEZ
Surveillance Assistant

¹ Lopez. A.L. et al. 2013



I. Geographic Distribution of Cases

Most of the cases came from Region III (359, 18%), NCR (209, 10%) and Region VI (195, 10%). There were 77 reported deaths with a Case-Fatality Ratio (CFR) of 4% (Table 1).

Table 1. Reported AMES Cases and Deaths by Region (N=2,009)
Philippines, Jan 1- Jun 30, 2018 vs 2017 same time period

Region	2018*			2017			% Change
	Cases	Deaths	CFR (%)	Cases	Deaths	CFR (%)	
PHILIPPINES	2009	77	4	1709	127	8	↑18
I	225	9	4	174	9	5	↑29
II	103	4	4	168	25	15	↓39
III	359	9	3	308	32	10	↑17
IV-A	164	7	4	82	7	9	↑100
MIMAROPA	16	1	6	9	0	0	↑78
V	136	7	5	72	1	1	↑89
VI	195	7	4	251	7	3	↓22
VII	128	8	6	135	18	13	↓5
VIII	19	4	21	27	2	7	↓30
IX	33	5	15	39	6	15	↓15
X	131	2	2	68	1	1	↑93
XI	98	1	1	58	6	10	↑69
XII	43	1	2	10	0	0	↑330
ARMM	52	2	4	28	0	0	↑86
CAR	56	1	2	92	6	7	↓39
CARAGA	42	1	2	37	2	5	↑14
NCR	209	8	4	151	5	3	↑38

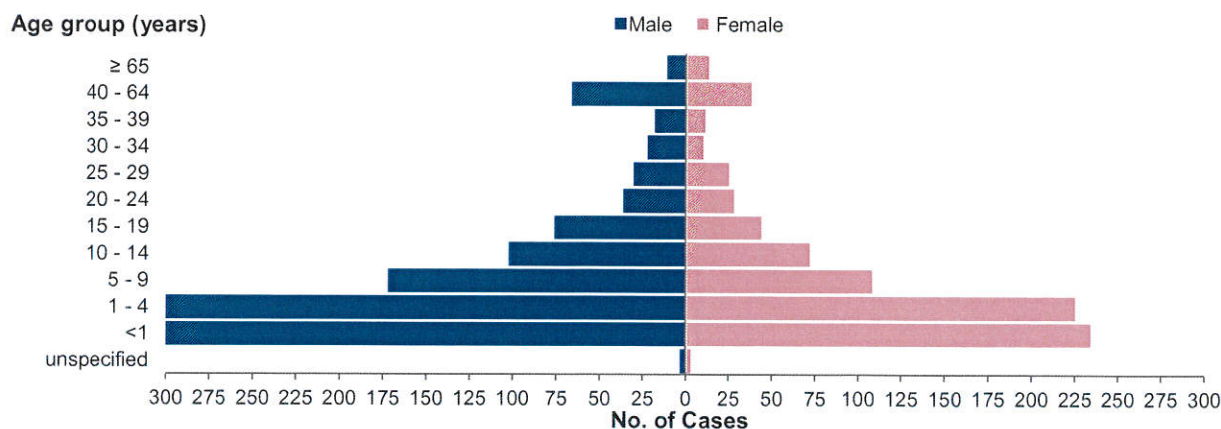
II. Profile of Cases

A. AMES Cases

1. Age group and Sex

Among the 2,009 suspect AMES cases, majority (1,186, 59%) were males. Age ranges from less than 1 month to 85 years (median: 3 years). Majority (1,101, 55%) of those affected were children less than 5 years of age (Figure 2).

Figure 2. Reported AMES cases by Age group and Sex (N=2,009)
Philippines, Jan 1 – Jun 30, 2018

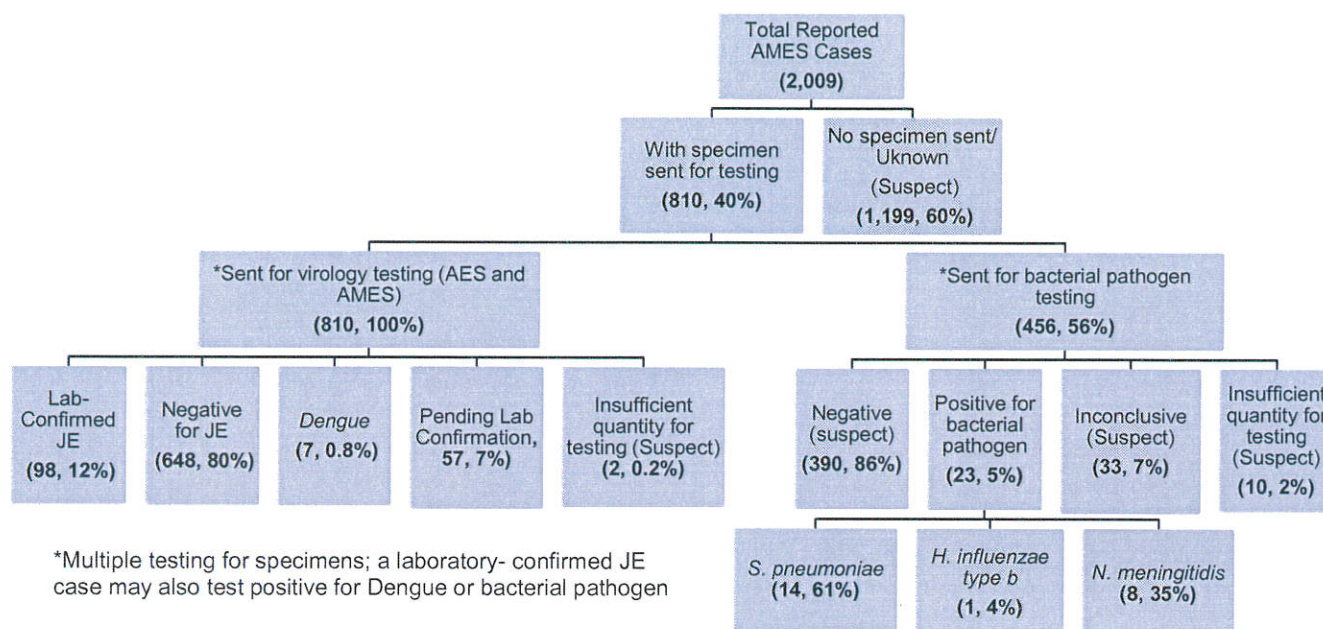




2. Laboratory Status

Out of the 2,009 AMES cases, 810 (40%) cases had specimens sent to the Research Institute for Tropical Medicine (RITM) for testing. All 810 (100%) cases with samples were tested for virology to test for *Japanese encephalitis* (JE) IgM; 456 (56%) cases also had their specimens sent for bacterial meningitis testing. Among those tested for virology, 98 (12%) were laboratory confirmed JE. Seven (0.8%) cases yielded *Dengue*. Among those cases also tested for bacterial pathogen, 23 (5%) yielded bacterial pathogens such as *H. influenzae* (1, 4%), *N. meningitidis* (8, 35%), and *S. pneumoniae* (14, 61%).

Figure 3. Reported AMES cases by Laboratory Status (N=2,009)
Philippines, Jan 1- Jun 30, 2018

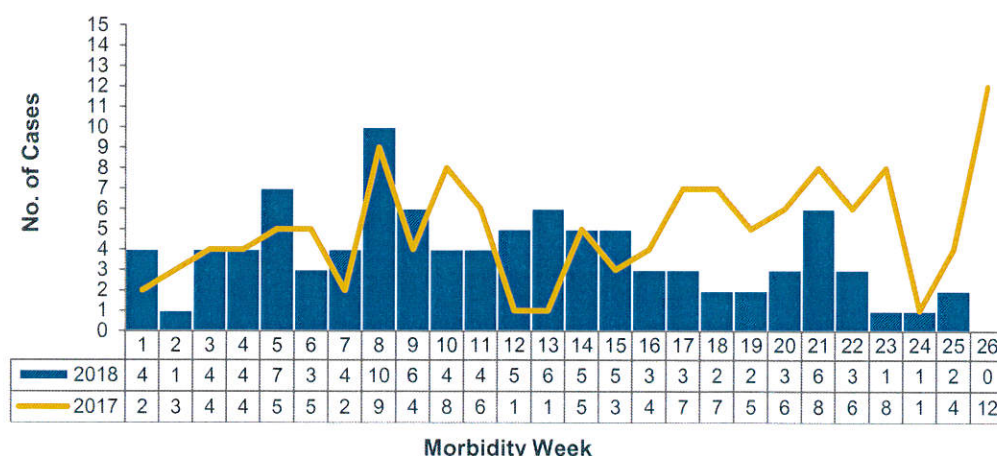


B. Confirmed Japanese Encephalitis Cases

1. Distribution of cases by Morbidity Week

Out of the 2,009 AMES cases, a total of 98 laboratory-confirmed JE cases were reported from January 1 to June 30, 2018 or Morbidity Week 1 - 26 (Figure 4). This is 25% lower than same period last year (N=130).

Figure 4. Distribution of Confirmed JE Cases by Morbidity Week (N=98)
Philippines, Jan 1- Jun 30, 2018 vs 2017 same time period





2. Geographic Distribution

Most of the lab-confirmed JE cases were reported from **Region III (43, 44%)**, **Region II (13, 13%)** and **Region VI (10, 10%)**. There were three reported JE deaths with a CFR of 3% (Table 2).

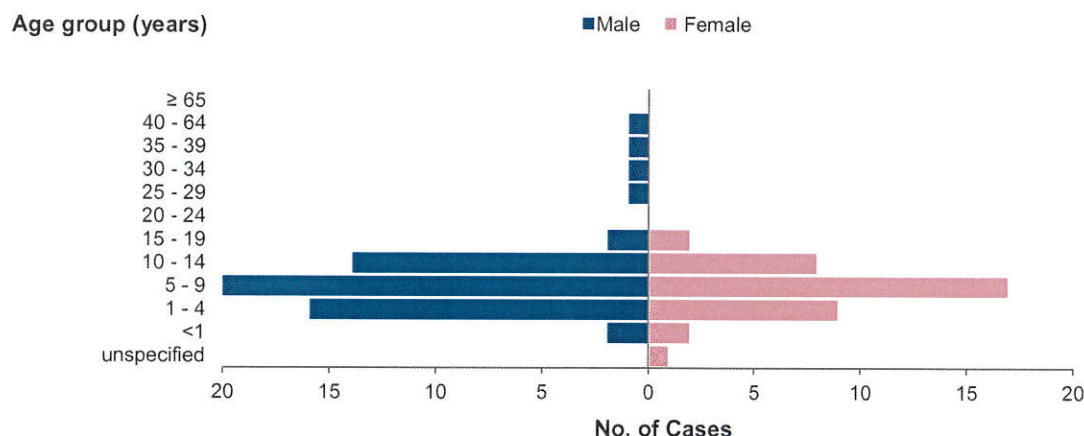
Table 2. Confirmed Japanese Encephalitis Cases and Deaths by Region (n=98)
Philippines, Jan 1- Jun 30, 2018 vs 2017 same time period

Region	2018			2017			% Change
	Cases	Deaths	CFR (%)	Cases	Deaths	CFR (%)	
PHILIPPINES	98	3	3	131	10	8	↓25
I	8	0	0	23	2	9	↓65
II	13	1	8	20	2	10	↓35
III	43	1	2	42	4	10	↑2
IV-A	1	0	0	7	0	0	↓86
MIMAROPA	1	0	0	1	0	0	→0
V	4	0	0	11	0	0	↓64
VI	10	0	0	4	0	0	↑150
VII	2	0	0	2	0	0	→0
VIII	0	0	--	0	0	--	--
IX	2	1	50	1	0	0	↑100
X	0	0	--	1	0	0	↓100
XI	3	0	0	5	0	0	↓40
XII	0	0	--	1	0	0	↓100
ARMM	1	0	--	0	0	--	--
CAR	9	0	0	6	0	0	↑50
CARAGA	1	0	0	2	1	50	↓50
NCR	0	0	--	5	1	20	↓100

3. Age group and Sex

Among the **98** confirmed JE cases, majority (**59, 60%**) were male. Age ranges from **3 months to 48 years** (median: 8 years). Majority of those affected were children 5 to 9 years of age (**38, 39%**) (Figure 5).

Figure 5. Confirmed Japanese Encephalitis Cases by Age group and Sex (n=98)
Philippines, Jan 1 – Jun 30, 2018



C. Confirmed Japanese Encephalitis Deaths

There were **3** reported confirmed JE deaths.

Case 1: 11-yr old male; date of onset: February 5, 2018; DRU: Zamboanga del Norte Medical Center; Region IX

Case 2: 12-yr old male; date of onset: February 18, 2018; DRU: Mother of Teresa Calcutta Medical Center- Pampanga; Region III

Case 3: 4-yr old male; date onset: March 3, 2018; DRU: Cagayan Valley Medical Center; Region II