



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% - 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) surveillance was initiated in nine sentinel hospitals.

PIDSR Case Definition:

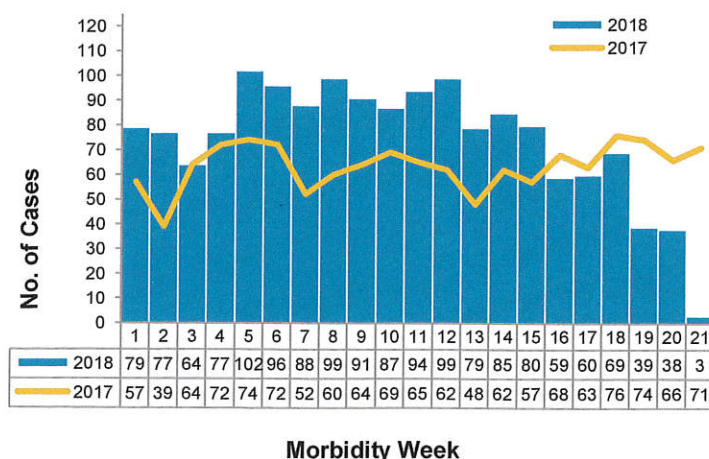
Japanese encephalitis cases are captured under AMES, which comes from the combined surveillance data of AMES from the sentinel sites, and the surveillance data of Acute Encephalitis Syndrome (AES) and Bacterial Meningitis (BM). The case definition for AMES shall be the combined case definition of AES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

I. Trends in the Philippines

A total of **1,565** AMES cases were reported from January 1 to May 26, 2018 or morbidity weeks 1-21 (Fig 2). This is **14% higher** than that of the same reporting period last year (1,372).

**Figure 1. Reported AMES cases by Morbidity Week (N=1,565)
Philippines, Jan 1- May 26, 2018 vs 2017 same time period**



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¹ Lopez, A.L. et al, 2013



II. Geographic Distribution of Cases

Most of the cases came from Region III (308, 20%), Region I (187, 12%), NCR (163, 10%) and Region VI (145, 9%). There were 62 reported deaths with a Case-Fatality Ratio (CFR) of 4% (Table 1).

Table 1. Reported AMES Cases and Deaths by Region (N=1,565)
Philippines, Jan 1- May 26, 2018 vs 2017

Region	2017			2018*			% Change
	Cases	Deaths	CFR (%)	Cases	Deaths	CFR (%)	
PHILIPPINES	1372	99	7	1565	62	4	↑ 14
I	148	7	5	187	7	4	↑ 26
II	138	19	14	72	3	4	↓ 47
III	251	29	12	308	9	3	↑ 23
IV-A	59	2	3	129	6	5	↑ 118
MIMAROPA	7	0	0	14	1	7	↑ 100
V	59	1	2	106	6	6	↑ 80
VI	202	6	3	145	7	5	↓ 28
VII	99	11	11	100	7	7	↑ 1
VIII	23	2	9	14	3	21	↓ 39
IX	32	7	22	25	3	12	↓ 22
X	53	1	2	79	0	0	↑ 49
XI	41	4	10	85	1	1	↑ 107
XII	7	0	0	31	1	3	↑ 342
ARMM	24	0	0	36	1	3	↑ 50
CAR	78	4	5	40	1	3	↓ 48
CARAGA	28	2	7	31	1	3	↑ 11
NCR	123	4	3	163	5	3	↑ 33

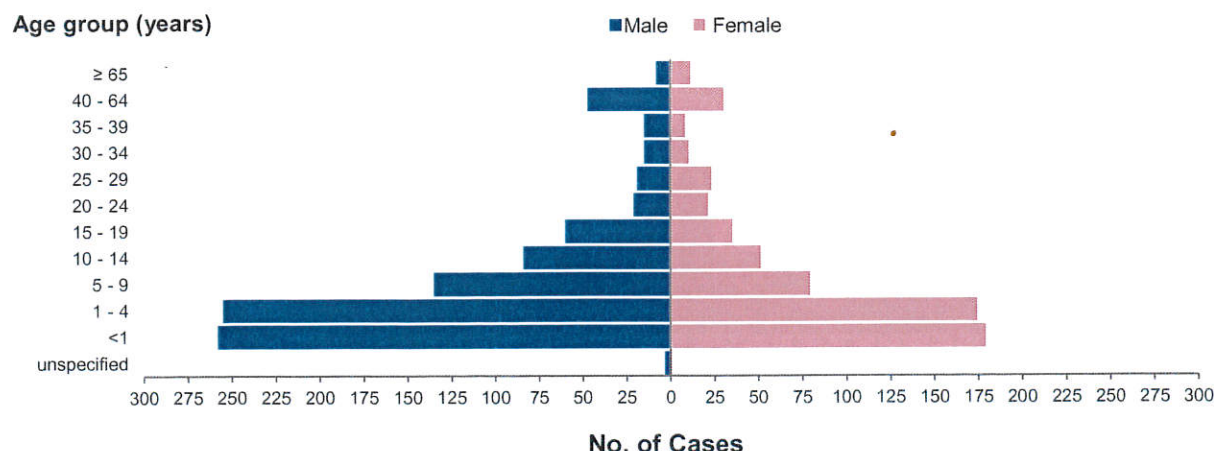
III. Profile of Cases

A. AMES Cases

1. Age group and Sex

Among the 1,565 AMES cases, majority (932, 60%) were male. Age ranges from **less than 1 month to 85 years** (median: 3 years). Majority (870, 56%) of those affected were children less than 5 years of age (Figure 2).

Figure 2. Reported AMES cases by Age group and Sex (N=1,565)
Philippines, Jan 1- May 26, 2018

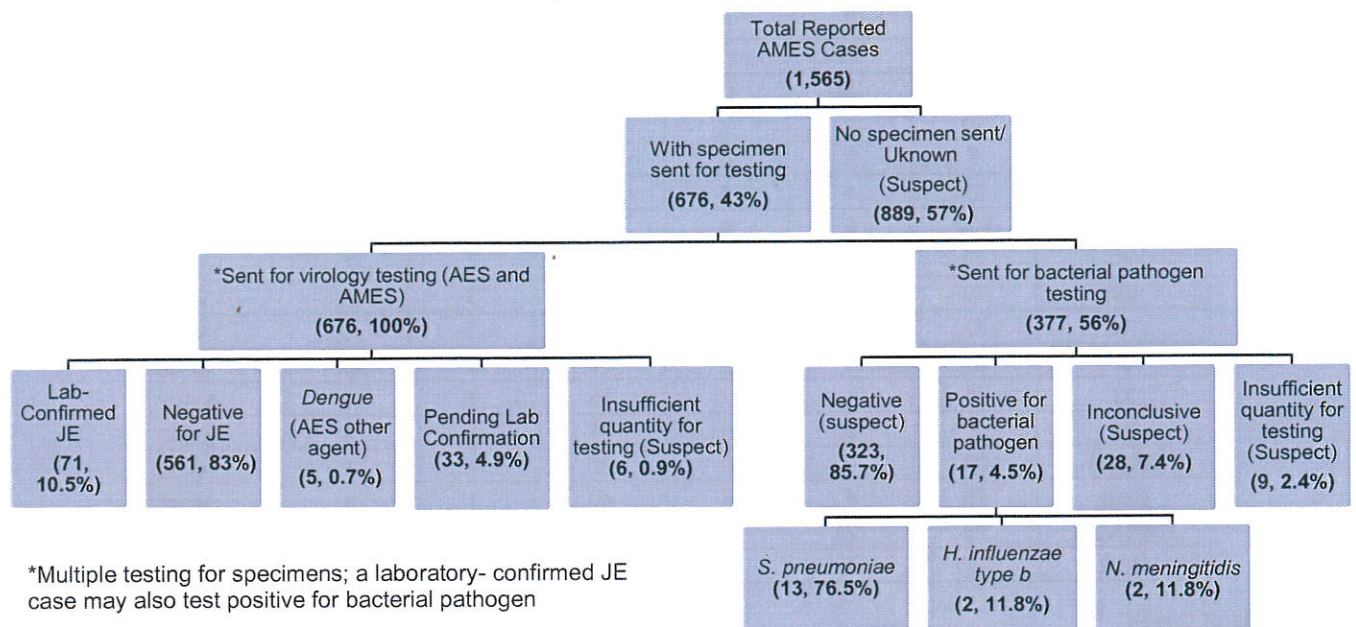




2. Laboratory Status

Out of the **1,565** AMES cases, **676 (43%)** cases had specimens sent to the Research Institute for Tropical Medicine (RITM) for testing. All **676 (100%)** cases with samples were tested for virology to test for *Japanese encephalitis* (JE) IgM; **377 (56%)** cases also had their specimens sent for bacterial meningitis testing. Among those tested for virology, **71 (10.5%)** were laboratory confirmed JE. Five (**0.7%**) cases yielded *Dengue*. Among those cases also tested for bacterial pathogen, **17 (4.5%)** yielded bacterial pathogens such as *H. influenzae* (**2, 11.8%**), *N. meningitidis* (**2, 11.8%**), and *S. pneumoniae* (**13, 76.5%**).

Figure 3. Reported AMES cases by Laboratory Status (N=1,565)
Philippines, Jan 1- May 26, 2018

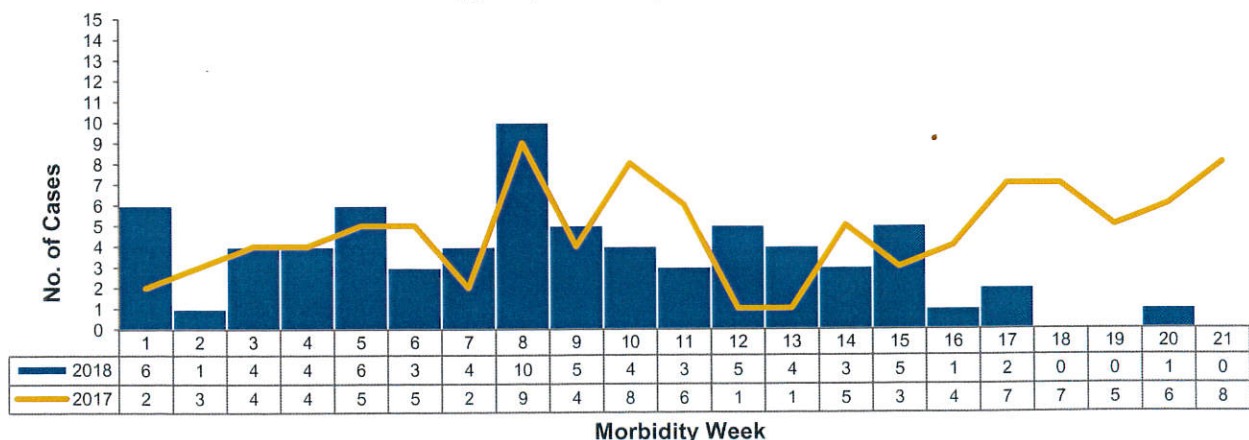


B. Confirmed Japanese Encephalitis Cases

1. Distribution of cases by Morbidity Week

Out of the **1,565** AMES cases, a total of **71** laboratory-confirmed JE cases were reported from January 1 to May 26, 2018 or morbidity weeks 1- 21 (Figure 4). This is **28% lower** than same period last year (99).

Figure 4. Distribution of Confirmed JE Cases by Morbidity Week (n=71)
Philippines, Jan 1- May 26, 2018 vs 2017





2. Geographic Distribution

Most of the lab-confirmed JE cases were reported from Region III (31, 44%), Region I (9, 13%) and Region II (9, 13%) cases. There were **two** reported JE deaths with a CFR of 3% (Table 2).

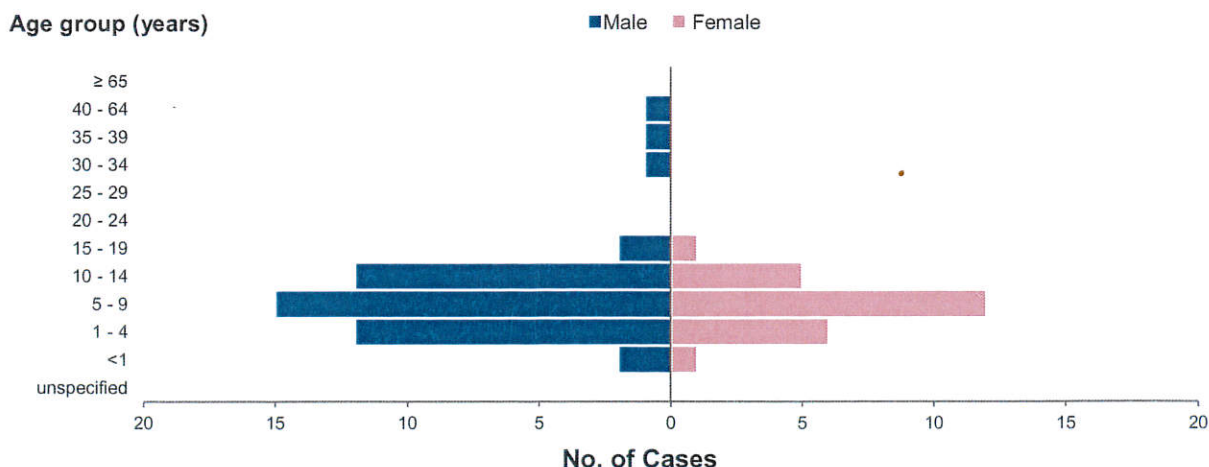
Table 2. Confirmed Japanese Encephalitis Cases and Deaths by Region (n=55)
Philippines, Jan 1- Apr 28, 2018 vs 2017

Region	2017			2018*			% Change
	Cases	Deaths	CFR (%)	Cases	Deaths	CFR (%)	
PHILIPPINES	99	8	8	71	2	3	↓ 28
I	18	1	6	9	0	0	↓ 50
II	15	2	13	9	1	11	↓ 40
III	36	4	11	31	1	3	↓ 14
IV-A	3	0	0	0	0	--	↓ 100
MIMAROPA	1	0	0	1	0	0	→ 0
V	8	0	0	3	0	0	↓ 63
VI	3	0	0	6	0	0	↑ 100
VII	2	0	0	2	0	0	→ 0
VIII	0	0	--	0	0	--	--
IX	1	0	0	1	0	0	→ 0
X	0	0	--	0	0	--	--
XI	3	0	0	2	0	0	↓ 33
XII	1	0	0	0	0	--	↓ 100
ARMM	0	0	--	0	0	--	--
CAR	4	0	0	6	0	0	↑ 50
CARAGA	2	1	--	1	0	0	↓ 50
NCR	2	0	0	0	0	--	↓ 100

3. Age group and Sex

Among the 71 confirmed JE cases, majority (46, 65%) were male. Age ranges from 3 months to 48 years (median: 7 years). Majority of those affected were children below 10 years of age (48, 68%) (Figure 5).

Figure 5. Confirmed Japanese Encephalitis Cases by Age group and Sex (n=71)
Philippines, Jan 1 – May 26, 2018





C. Confirmed Japanese Encephalitis Deaths

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

Case 1: 4- year old male; date onset: March 3, 2018; disease reporting unit: Cagayan Valley Medical Center; Region II

Case 2: 12- year old male; date of onset: February 18, 2018; disease reporting unit: Mother of Teresa Calcutta Medical Center-
Pampanga; Region III