



**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.<sup>1</sup> In 2015, Acute Meningitis Encephalitis Surveillance (AMES) was initiated in nine sentinel hospitals.

**PIDSR Case Definition:**

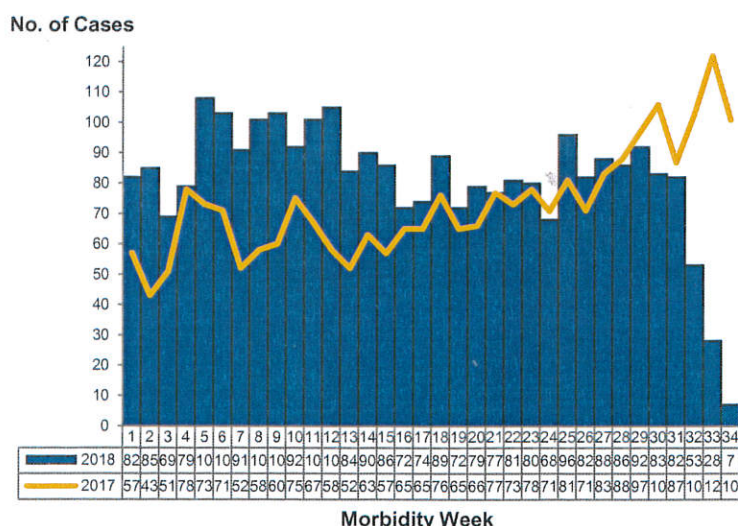
Japanese encephalitis cases are captured under AMES, which comes from the combined surveillance data of AMES from the sentinel sites, and the surveillance data of Acute Encephalitis Syndrome (AES) and Bacterial Meningitis (BM). The case definition for AMES shall be the combined case definition of AES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

Case Classification	Criteria
<b>Suspected AMES Case</b>	a person of any age, with acute onset of fever <b>and at least one</b> of the ff.: <ul style="list-style-type: none"><li>- Change in mental status (including altered consciousness, confusion, or inability to talk)</li><li>- New onset of seizures (excluding simple febrile seizures)</li><li>- Neck stiffness or other meningeal signs (Kernig's sign, Brudzinkis' sign, bulging fontanel, etc.)</li><li>- Case diagnosed by the physician as either encephalitis or meningitis</li></ul>
<b>Probable JE</b>	a suspected case that occurs in close geographical and temporal relationship to a lab-confirmed case of JE, in the context of an outbreak
<b>Lab-confirmed JE</b>	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
<b>AES – other agent</b>	a suspected case in which diagnostic testing is performed and an etiologic agent other than JE virus is identified
<b>AES – unknown</b>	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 **2,768** AMES cases were reported from January 1 to August 26, 2018 or Morbidity Weeks 1 to 34 (Figure 1). This is **11% higher** than that of the same reporting period last year (n=2,492).

**Figure 1. Reported AMES cases by Morbidity Week (N=2,768)**  
Philippines, January 1 – August 26, 2018 vs 2017 same time period



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<sup>1</sup> Lopez, A.L. et al, 2013





## I. Geographic Distribution of Cases

Most of the cases came from Region III (518, 19%), Region I (329, 12%) and NCR (278, 10%). There were **104** reported deaths with a Case-Fatality Ratio (CFR) of 4% (Table 1).

**Table 1. Reported AMES Cases and Deaths by Region (N=2,768)**  
Philippines, January 1- August 26, 2018 vs 2017 same time period

Region	2018		2017		% Change
	Cases	Deaths	Cases	Deaths	
<b>PHILIPPINES</b>	<b>2,768</b>	<b>104</b>	<b>2,492</b>	<b>182</b>	<b>↑ 11</b>
I	329	12	287	13	↑ 15
II	145	4	268	41	↓ 46
III	518	11	426	42	↑ 22
IV-A	214	10	111	10	↑ 93
MIMAROPA	26	1	12	0	↑ 117
V	178	9	98	2	↑ 82
VI	264	10	342	9	↓ 23
VII	182	9	210	29	↓ 13
VIII	32	6	38	2	↓ 16
IX	35	6	57	10	↓ 39
X	139	4	122	1	↑ 14
XI	158	1	82	7	↑ 93
XII	63	3	12	0	↑ 425
ARMM	67	3	43	0	↑ 56
CAR	83	3	126	8	↓ 34
CARAGA	57	2	47	2	↑ 21
NCR	278	10	211	6	↑ 32

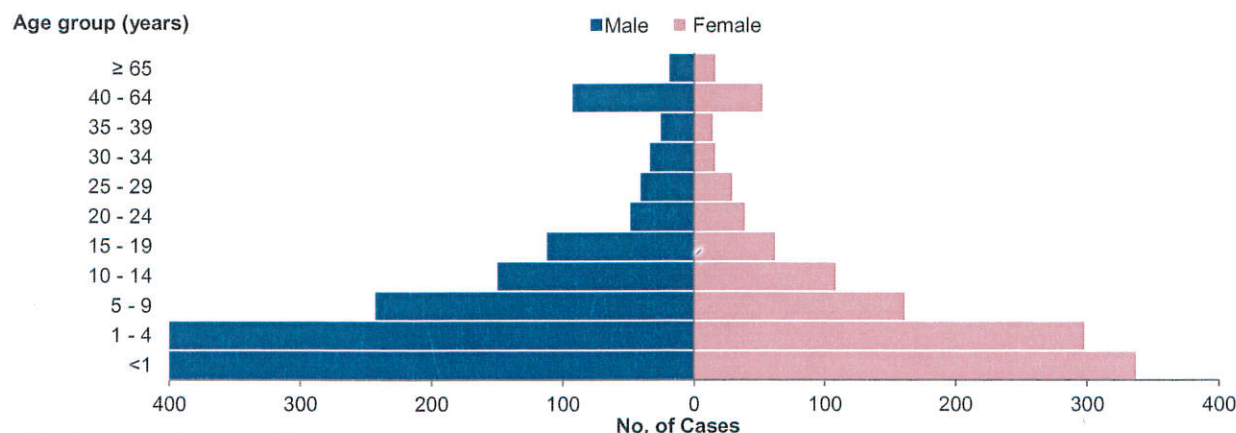
## II. Profile of Cases

### A. AMES Cases

#### 1. Age group and Sex

Among the 2,768 suspect AMES cases, majority (1,633, 59%) were male. Age ranges from **less than 1 month to 85 years** (median: 4 years). Majority (1,496, 54%) of those affected were children less than 5 years of age (Figure 2).

**Figure 2. Reported AMES cases by Age group and Sex (N=2,768)\***  
Philippines, January 1 – August 26, 2018



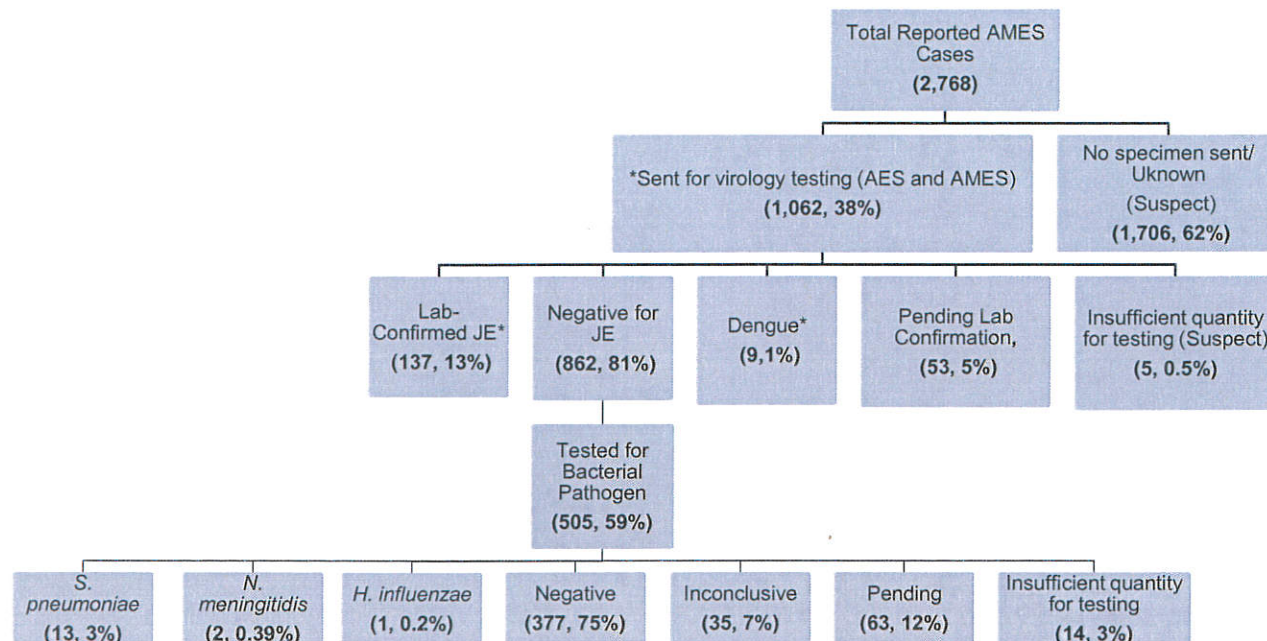
\*Eight cases with unspecified age



## 2. Laboratory Status

Out of the 2,768 AMES cases, 1,062 (38%) cases had specimens sent to the Research Institute for Tropical Medicine (RITM) for virology to test for *Japanese encephalitis* (JE) IgM. Among tested, 137 (13%) were laboratory confirmed JE. Nine (1%) cases yielded *Dengue*. 862 (81%) were negative for JE. Among those negative for JE, 505 (59%) were tested for bacterial pathogens. 13 (3%) yielded *S. pneumoniae*, two (0.39%) yielded *N. meningitidis* while one (0.20%) yielded *H. influenzae*.

Figure 3. Reported AMES cases by Laboratory Status (N=2,768)  
Philippines, January 1 – August 26, 2018



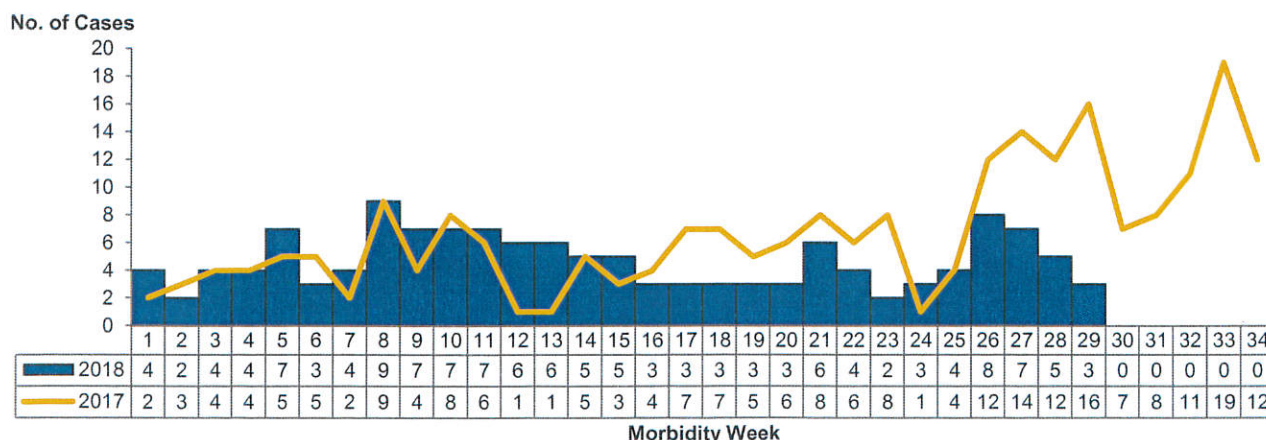
\*Multiple testing; 4 cases both positive for JE and Dengue

## B. Confirmed Japanese Encephalitis Cases

### 1. Distribution of cases by Morbidity Week

Out of the 2,768 AMES cases, a total of 137 laboratory-confirmed JE cases were reported from January 1 to August 26, 2018 or Morbidity Week 1 - 34 (Figure 4). This is 40% lower than same period last year (n=229).

Figure 4. Distribution of Confirmed JE Cases by Morbidity Week (n=137)  
Philippines, January 1 – August 26, 2018 vs 2017 same time period



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).





## 2. Geographic Distribution

Most of the lab-confirmed JE cases were reported from **Region III (54, 39%)**, **Region II (17, 12%)** and **Region I (16, 12%)**. There were six reported JE deaths with a CFR of 4% (Table 2).

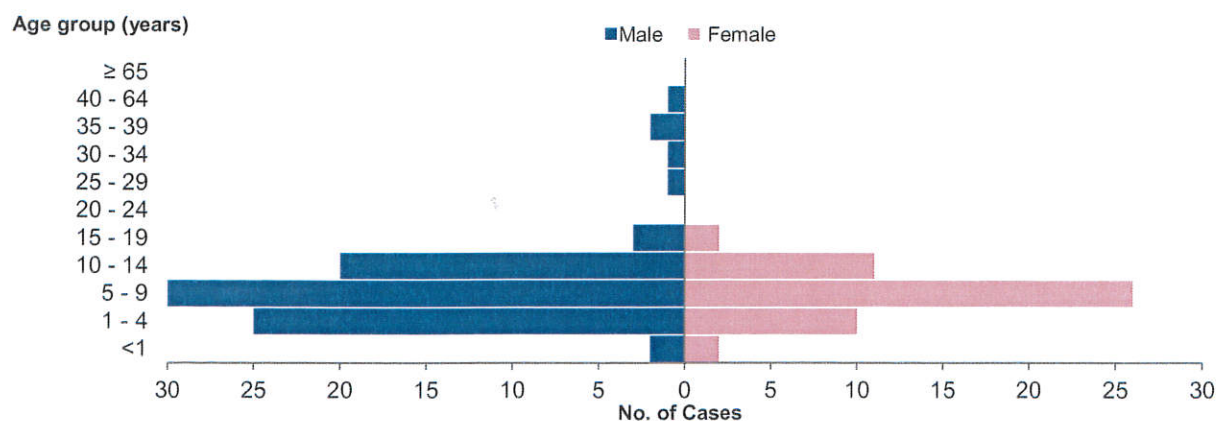
**Table 2. Confirmed Japanese Encephalitis Cases and Deaths by Region (n=137)**  
Philippines, January 1 – August 26, 2018 vs 2017 same time period

Region	2018			2017			% Change
	Cases	Deaths	CFR (%)	Cases	Deaths	CFR (%)	
<b>PHILIPPINES</b>	<b>137</b>	<b>6</b>	<b>4</b>	<b>229</b>	<b>18</b>	<b>8</b>	<b>↓ 40</b>
I	16	0	0	54	4	7	↓ 70
II	17	1	6	37	4	11	↓ 54
III	54	2	4	66	7	11	↓ 18
IV-A	3	1	33	11	1	9	↓ 73
MIMAROPA	2	0	0	3	0	0	↓ 33
V	6	0	0	16	0	0	↓ 63
VI	14	1	7	11	0	0	↑ 27
VII	2	0	0	4	0	0	↓ 50
VIII	0	0	-	0	0	-	-
IX	1	1	100	1	0	0	→ 0
X	0	0	-	3	0	0	↓ 100
XI	4	0	0	6	0	0	↓ 33
XII	2	0	0	1	0	0	↑ 100
ARMM	2	0	0	0	0	-	-
CAR	13	0	0	9	0	0	↑ 44
CARAGA	1	0	0	2	1	50	↓ 50
NCR	0	0	-	5	1	20	↓ 100

## 3. Age group and Sex

Among the 137 confirmed JE cases, majority (85, 62%) were male. Age ranges from **3 months to 48 years** (median: 6 years). Most of those affected were children 5 to 9 years of age (56, 41%) (Figure 5).

**Figure 5. Confirmed Japanese Encephalitis Cases by Age group and Sex (n=137)\***  
Philippines, January 1 – August 26, 2018



\*One case with unspecified age



**C. Confirmed Japanese Encephalitis Deaths**

There were **6** reported confirmed JE deaths (**CFR= 4%**).

- 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 of onset: March 6, 2018; DRU: Cagayan Valley Medical Center; Region II  
Case 4: 18-yr old male; date of onset: March 8, 2018; DRU: Orion St. Michael Hospital; Region III  
Case 5: 13-yr old female; date of onset: May 24, 2018; DRU: Mount Carmel Diocesan General Hospital; Region IV-A  
Case 6: 5-yr old male; date of admission: July 6, 2018; DRU: Iloilo Doctors's Hospital, Inc.; Region VI