



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

### PIDSR Case Definition:

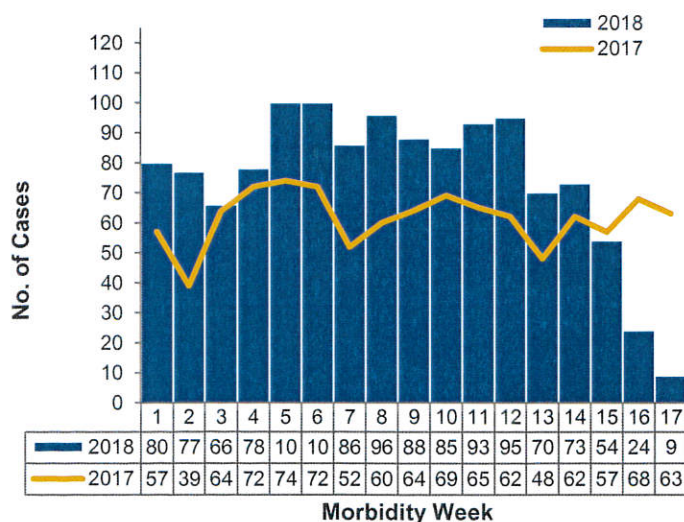
Japanese encephalitis cases are captured under AMES, which comes from the combined surveillance data of AMES from the sentinel sites, and the surveillance data of Acute Encephalitis Syndrome (AES) and Bacterial Meningitis (BM). The case definition for AMES shall be the combined case definition of AES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

Case Classification	Criteria
<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, Brudzinksi's 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

### I. Trends in the Philippines

A total of **1,274** AMES cases were reported from January 1 to March 31, 2018 or Morbidity weeks 1-17 (Fig 2). This is **22% higher** than that of the same reporting period last year (1,048).

**Figure 1. Reported AMES cases by Morbidity Week (N=1,274) Philippines, Jan 1- Apr 28, 2018 vs 2017 same time period**



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





## II. Geographic Distribution of Cases

Most of the cases came from Region III (242, 19%), Region I (168, 13%), NCR (124, 10%) and 04A (116, 9%). There were 52 reported deaths with a Case-Fatality Ratio (CFR) of 4% (Table 1).

**Table 1. Reported AMES Cases and Deaths by Region (N=1,274)**  
Philippines, Jan 1- Apr 28 2018 vs 2017

Region	2017			2018*			% Change
	Cases	Deaths	CFR (%)	Cases	Deaths	CFR (%)	
<b>PHILIPPINES</b>	<b>1048</b>	<b>75</b>	<b>7</b>	<b>1274</b>	<b>52</b>	<b>4</b>	<b>↑ 22</b>
I	107	5	5	168	7	4	↑ 57
II	107	15	14	48	2	4	↓ 55
III	197	22	11	242	8	3	↑ 23
IV-A	41	1	2	116	5	4	↑ 183
MIMAROPA	6	0	0	15	1	7	↑ 150
V	47	1	2	85	6	7	↑ 81
VI	159	6	4	113	6	5	↓ 29
VII	69	9	13	87	5	6	↑ 26
VIII	22	1	5	11	1	9	↓ 50
IX	24	6	25	24	3	13	→ 0
X	43	1	2	71	0	0	↑ 65
XI	25	3	12	65	0	0	↑ 160
XII	6	0	0	24	0	0	↑ 300
ARMM	19	0	0	29	1	3	↑ 53
CAR	59	1	2	27	1	4	↓ 57
CARAGA	20	1	5	24	1	4	↑ 20
NCR	97	3	3	124	5	4	↑ 28
NON-PHL*	0	0	--	1	0	0	--

\*\*foreign nationality; not a permanent resident of the Philippines. Case count included in national data count.

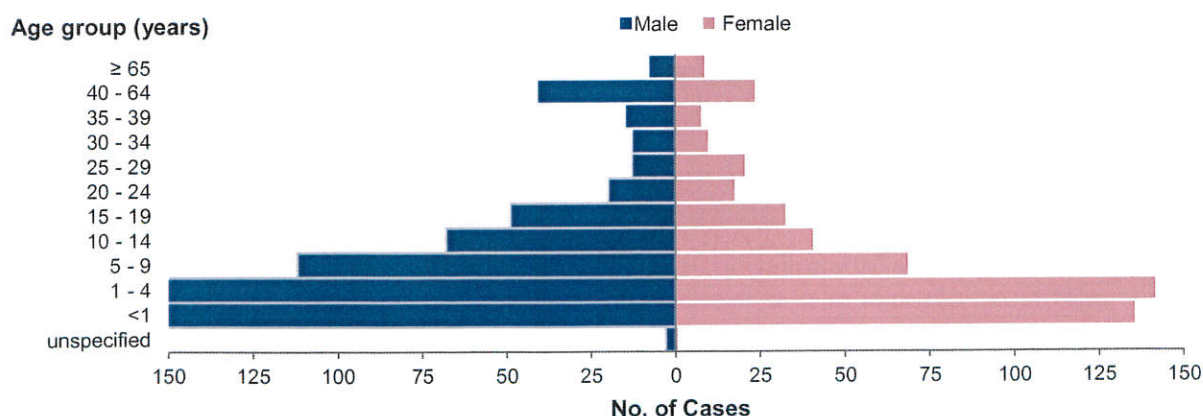
## III. Profile of Cases

### A. AMES Cases

#### 1. Age group and Sex

Among the 1,274 suspect AMES cases, majority (762, 60%) were male. Age ranges from **less than 1 month to 85 years** ( median: 3 years). Majority (698, 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=1,274)**  
Philippines, Jan 1- Apr 28, 2018

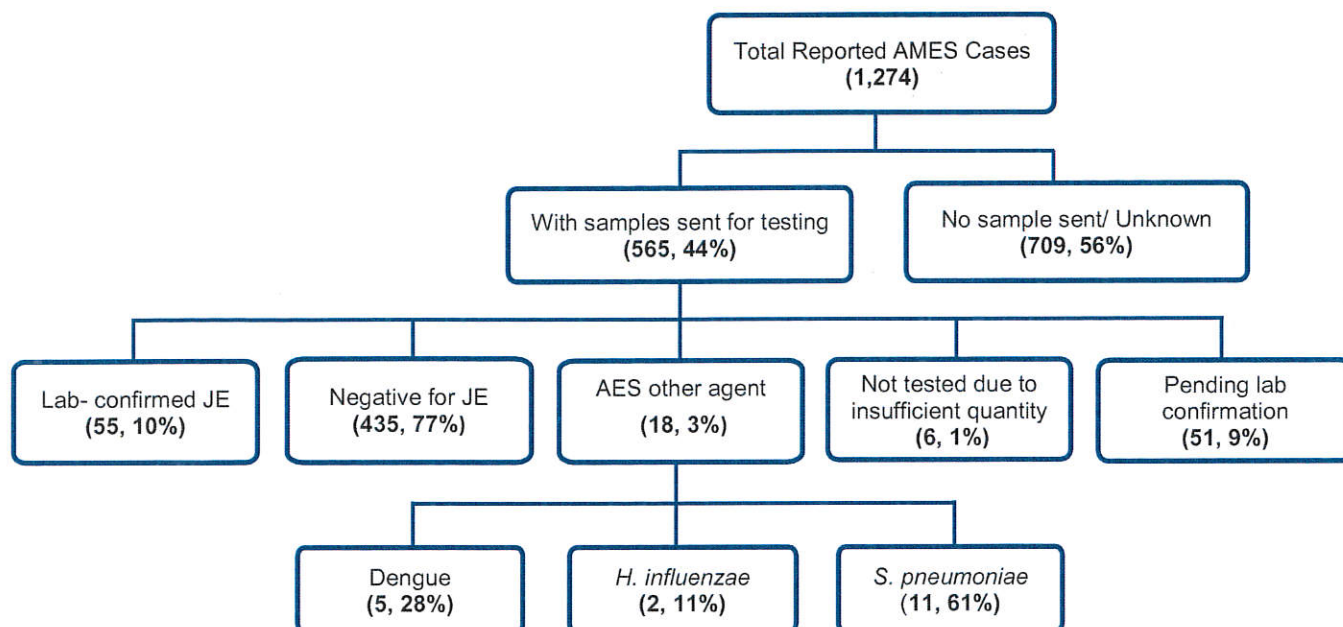




## 2. Laboratory Status

Out of the **1,274** AMES cases, **565 (44%)** cases had specimen samples sent to the Research Institute for Tropical Medicine (RITM) for testing. Among those tested, **55 (10%)** were laboratory confirmed JE. **Eighteen (3%)** yielded other pathogen such as Dengue (**5, 28%**), *H. influenzae* (**2, 11%**) and *S. pneumoniae* (**11, 61%**) (Figure 3).

**Figure 3. Reported AMES cases by Laboratory Status (N=1,274)**  
Philippines, Jan 1- Apr 28, 2018

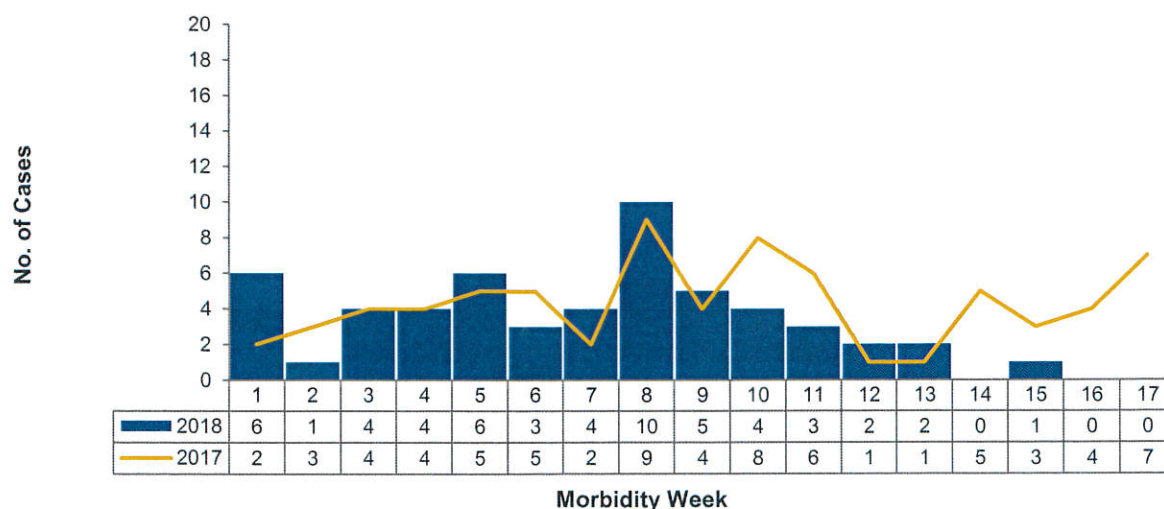


## B. Confirmed Japanese Encephalitis Cases

### 1. Distribution of cases by Morbidity Week

Out of the **1,274** AMES cases, a total of **55** laboratory-confirmed JE cases were reported from January 1 to April 28, 2018 or Morbidity week 1- 17 (Figure 4). This is **25% lower** than same period last year (73).

**Figure 4. Distribution of Confirmed JE Cases by Morbidity Week (n=55)**  
Philippines, Jan 1- Apr 28, 2018 vs 2017







## 2. Geographic Distribution

Majority of the lab-confirmed JE cases were reported from Region 3 (28, 51%). The next top regions with the highest lab-confirmed JE cases were Region 1 (8, 15%) and Region 6 (5, 9%) cases. There were 2 reported JE deaths with a CFR of 4% (Table 2).

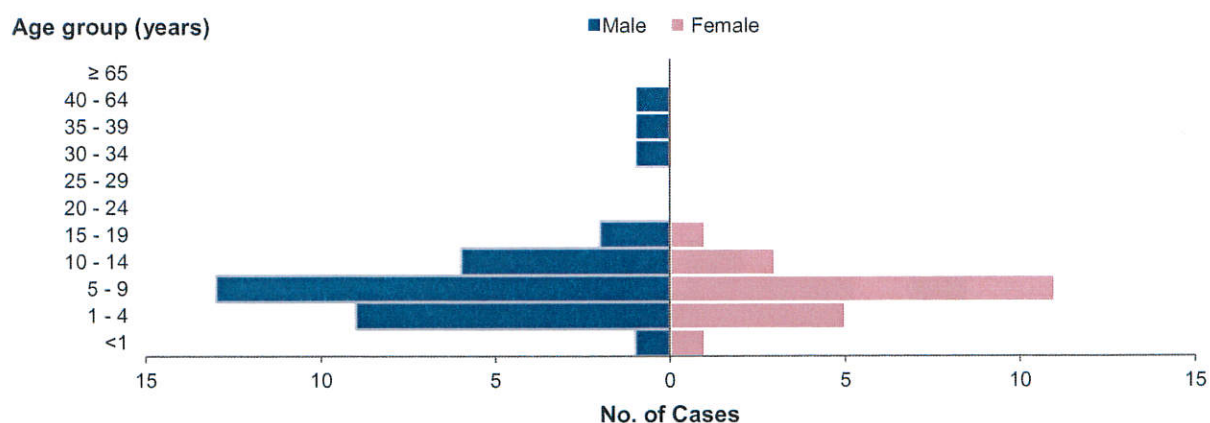
**Table 2. Confirmed Japanese Encephalitis Cases and Deaths by Region (n=55)**  
Philippines, Jan 1- Apr 28, 2018 vs 2017

Region	2017			2018*			% Change
	Cases	Deaths	CFR (%)	Cases	Deaths	CFR (%)	
<b>PHILIPPINES</b>	<b>73</b>	<b>5</b>	<b>7</b>	<b>55</b>	<b>2</b>	<b>4</b>	<b>↓ 25</b>
I	16	1	6	8	0	0	↓ 50
II	8	1	13	4	1	25	↓ 50
III	30	3	10	28	1	4	↓ 7
IV-A	2	0	0	0	0	--	↓ 100
MIMAROPA	1	0	0	1	0	0	→ 0
V	3	0	0	1	0	0	↓ 67
VI	3	0	0	5	0	0	↑ 67
VII	1	0	0	2	0	0	↑ 100
VIII	0	0	--	0	0	--	--
IX	1	0	0	1	0	0	→ 0
X	0	0	--	0	0	--	--
XI	1	0	0	1	0	0	→ 0
XII	1	0	0	0	0	--	↓ 100
ARMM	0	0	--	0	0	--	--
CAR	4	0	0	3	0	0	↓ 25
CARAGA	0	0	--	1	0	0	--
NCR	2	0	0	0	0	--	↓ 100

## 3. Age group and Sex

Among the 55 confirmed JE cases, majority (34, 62%) were male. Age ranges from 3 months to 48 years (median: 6 years). Majority of those affected were children 5 to 9 years of age (37, 67%) (Figure 5).

**Figure 5. Confirmed Japanese Encephalitis Cases by Age group and Sex (n=55)**  
Philippines, Jan 1 – Apr 28, 2018





**C. Confirmed Japanese Encephalitis Deaths**

There were **2** 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