



### 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:

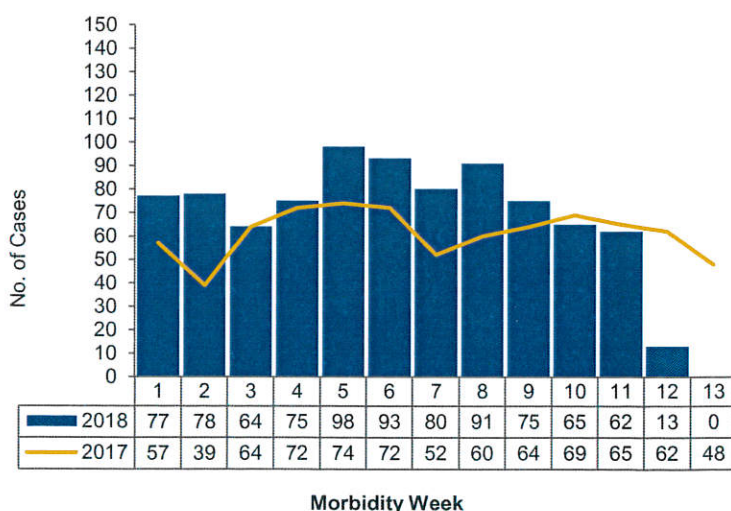
Japanese encephalitis cases are captured under AMES, which comes from the combined surveillance data of AMES from the sentinel sites, and the surveillance data of Acute Encephalitis Syndrome (AES) and Bacterial Meningitis (BM). The case definition for AMES shall be the combined case definition of AES 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 871 suspect AMES cases were reported from January 1 to March 31, 2018 or Morbidity weeks 1-13 (Figure1). This is **10% higher** than that of the same reporting period last year (791).

**Figure 1. Reported AMES cases by Morbidity Week (N=871)  
Philippines, Jan- Mar 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 (175, 20%), Region I (117, 13%), Region 4A (85, 10%) and NCR (85, 10%). There were 34 reported deaths with a Case-Fatality Ratio (CFR) of 4% (Table 1).

**Table 1. Reported AMES Cases and Deaths by Region (N=871)**  
Philippines, Jan- Mar 2017 vs Jan-Mar 2018

Region	2017			2018*			
	Cases	Deaths	CFR (%)	Cases	Deaths	CFR (%)	% Change
<b>PHILIPPINES</b>	<b>791</b>	<b>51</b>	<b>6</b>	<b>871</b>	<b>34</b>	<b>4</b>	<b>↑ 10</b>
I	80	3	4	117	4	3	↑ 46
II	67	6	9	38	2	5	↓ 43
III	146	17	12	175	5	3	↑ 20
IV-A	29	0	0	85	4	5	↑ 193
MIMAROPA	5	0	0	5	0	0	→ 0
V	38	1	3	46	4	9	↑ 21
VI	132	6	5	82	5	6	↓ 38
VII	51	7	14	61	4	7	↑ 20
VIII	21	1	5	4	0	0	↓ 81
IX	21	5	24	14	2	14	↓ 32
X	37	0	0	49	0	0	↑ 32
XI	22	2	9	43	0	0	↑ 95
XII	6	0	0	15	0	0	↑ 150
ARMM	15	0	0	19	1	5	↑ 27
CAR	38	1	3	18	0	0	↓ 53
CARAGA	16	1	6	14	0	0	↓ 13
NCR	67	1	1	85	3	4	↑ 27
NON-PHL*	0	0	--	1	0	0	--

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

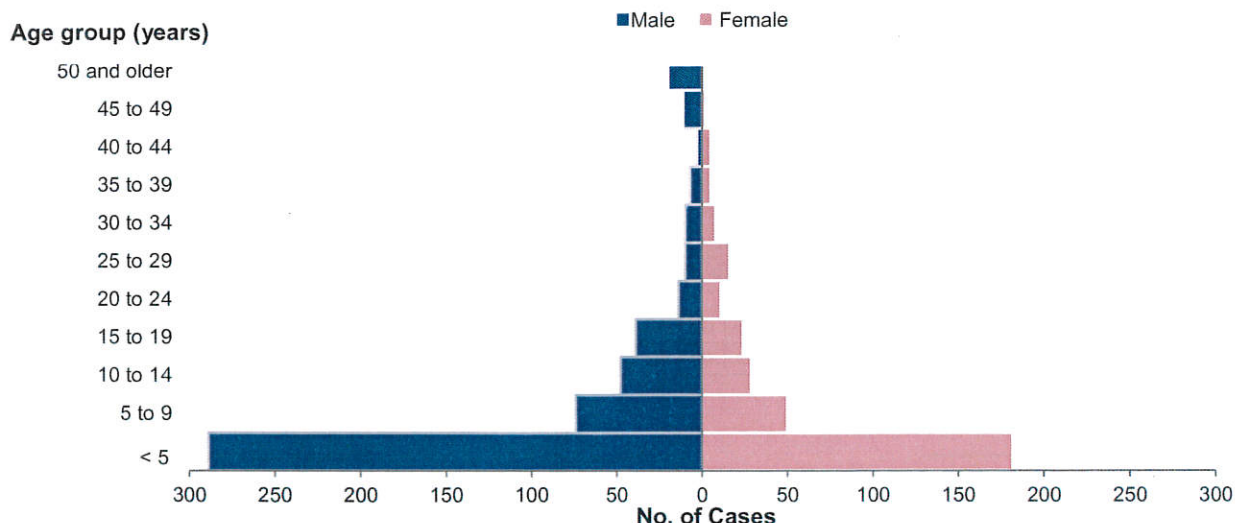
## III. Profile of Cases

### a. AMES Cases

#### 1. Age group and Sex

Among the 871 suspect AMES cases, majority (525, 60%) were male. Age ranges from 1 month to 85 years ( median: 4 years). Majority (595, 68%) of those affected were children below 10 years of age (595, 68%) (Figure 2).

**Figure 2. Reported AMES cases by Age group and Sex (N=871)**  
Philippines, Jan- Mar 2018

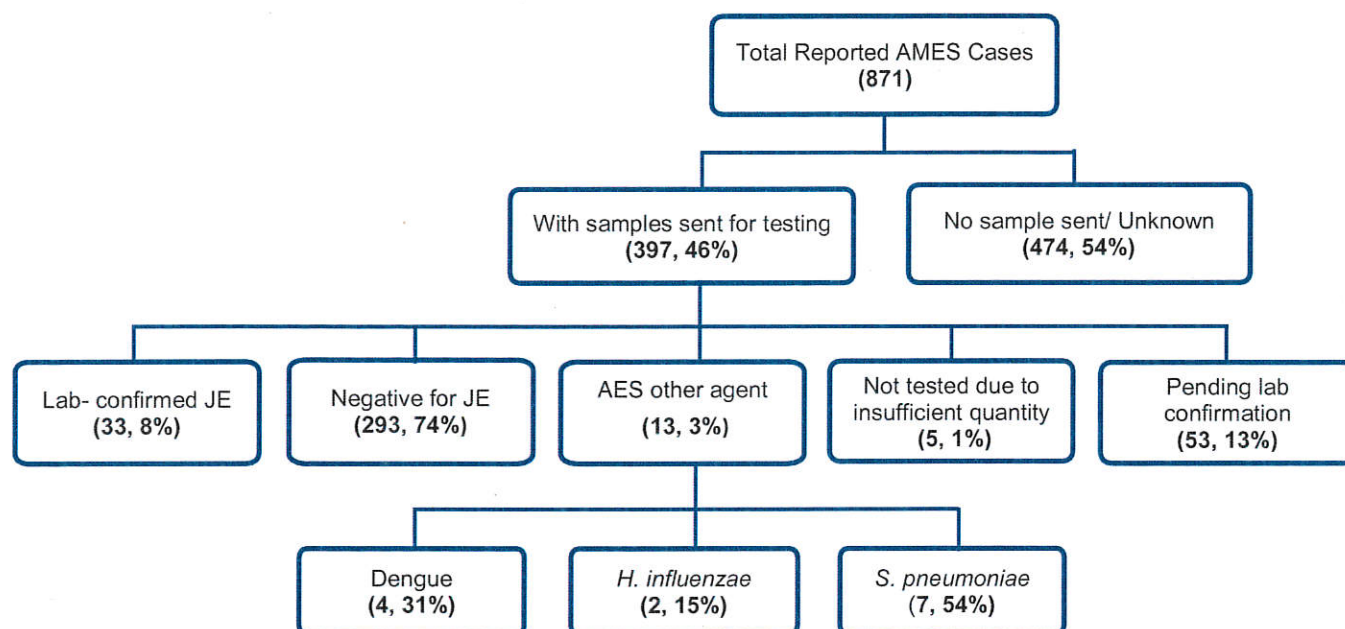




## 2. Laboratory Status

Out of the 871 AMES cases, 397 (46%) cases had specimen samples sent to the Research Institute for Tropical Medicine (RITM) for testing. Among those tested, 33 (8%) were laboratory confirmed *Japanese Encephalitis* (JE). Thirteen (3%) yielded other pathogen such as Dengue (4, 31%), *H. influenza* (2, 15%) and *S. pneumoniae* (7, 54%) (Figure 3).

Figure 3. Reported AMES cases by Laboratory Status (N=871)  
Philippines, Jan- Mar 2018

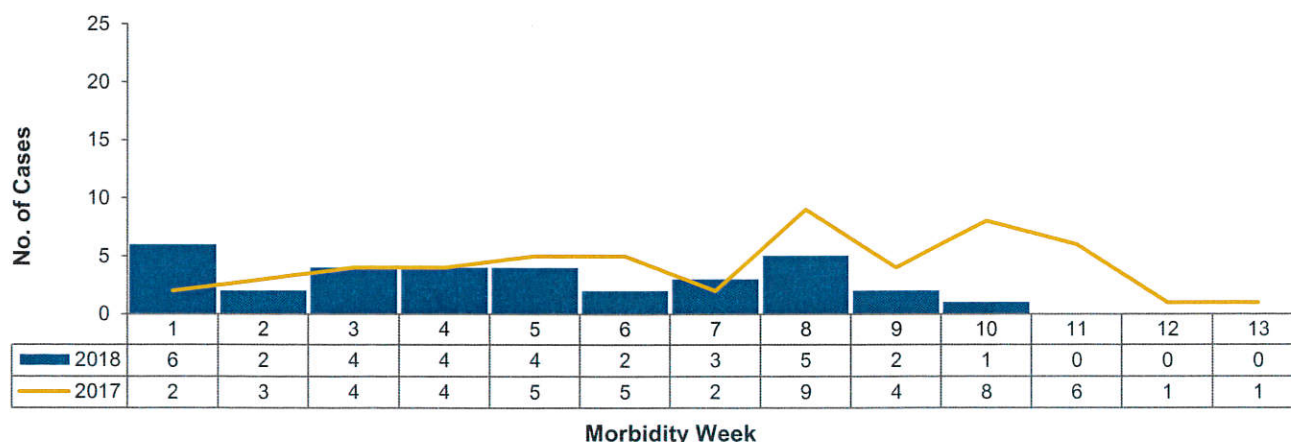


### b. Confirmed Japanese Encephalitis Cases

#### 1. Distribution of cases by Morbidity Week

Out of the 871 AMES cases, a total of 33 laboratory-confirmed JE cases were reported from January 1 to March 31, 2018 (Figure 4). This is 39% lower than same period last year (54).

Figure 4. Distribution of Confirmed JE Cases by Morbidity Week (n=33)  
Philippines, Jan- Mar 2017 vs Jan- Mar 2018







## 2. Geographic Distribution

Majority of the lab-confirmed JE cases were reported from Region 3 (17, 52%). The next top regions with the highest confirmed JE cases were Region 6 (5, 15%) and Region 1 (4, 12%) cases. There were 2 reported JE deaths with a CFR of 6% (Table 2).

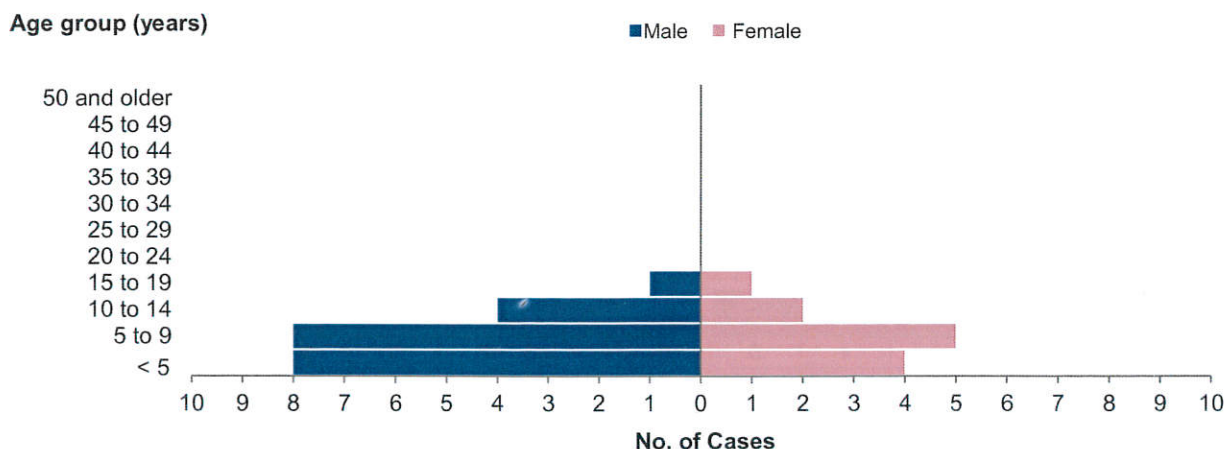
**Table 2. Confirmed Japanese Encephalitis Cases and Deaths by Region (n=33)**  
Philippines, Jan- Mar 2017 vs Jan- Mar 2018

Region	2017			2018*			
	Cases	Deaths	CFR (%)	Cases	Deaths	CFR (%)	% Change
<b>PHILIPPINES</b>	<b>54</b>	<b>4</b>	<b>7</b>	<b>33</b>	<b>2</b>	<b>6</b>	<b>↓ 39</b>
I	12	1	8	4	0	0	↓ 67
II	3	0	0	2	1	50	↓ 33
III	27	3	11	17	1	6	↓ 37
IV-A	2	0	0	0	0	--	↓ 100
MIMAROPA	1	0	0	1	0	0	→ 0
V	1	0	0	0	0	--	↓ 100
VI	3	0	0	5	0	0	↑ 67
VII	0	0	--	1	0	0	--
VIII	0	0	--	0	0	--	--
IX	0	0	--	1	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	1	0	0	0	0	--	↓ 100
CARAGA	0	0	--	1	0	0	--
NCR	2	0	0	0	0	--	↓ 100

## 3. Age group and Sex

Among the 33 confirmed JE cases, majority (21, 64%) were male. Age ranges from 10 months to 17 years (median: 6 years). The most affected were children below 10 years of age (25, 76%) (Figure 5).

**Figure 5. Confirmed Japanese Encephalitis Cases by Age group and Sex (n=33)**  
Philippines, Jan- Mar 2018





c. Confirmed Japanese Encephalitis Deaths

There were 2 reported confirmed JE deaths. Both were males and under 15 years of age (Figure 6).

Figure 6. Confirmed Japanese Encephalitis Deaths by Age group and Sex (n=2)  
Philippines, Jan- Mar 2018

