



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:

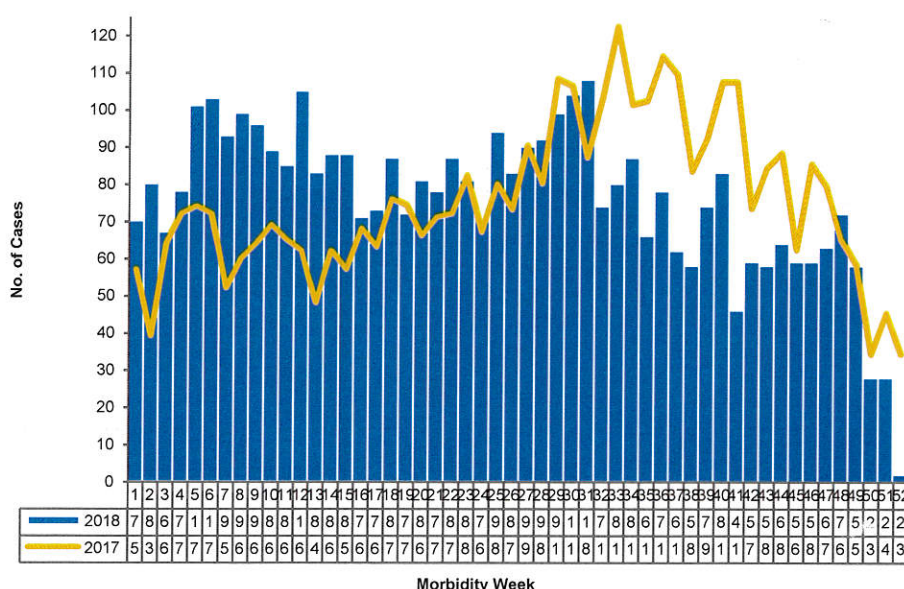
Japanese encephalitis cases are captured under AMES, which comes from the combined surveillance data of AMES from the sentinel sites, and the surveillance data of Acute Encephalitis Syndrome (AES) and Bacterial Meningitis (BM). The case definition for AMES shall be the combined case definition of AES 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, Brudzinkis' 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 **3,953** AMES cases were reported from January 1 to December 31, 2018 or Morbidity Weeks 1 to 52 (Figure 1). This is **1% higher** than that of the same reporting period last year (n=3,927).

Figure 1. Reported AMES cases by Morbidity Week (N=3,953)
Philippines, January 1 – December 31, 2018 vs 2017 same time period



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¹ Lopez, A.L. et al, 2013



I. Geographic Distribution of Cases

Most of the cases came from Region III (664, 17%), Region I (465, 12%) and NCR (434, 11%), likewise, Regions IV-A, MIMAROPA, V, XI, XII, ARMM, and CARAGA showed an increased number of cases compared with the same time period in 2017. There were 179 reported deaths with a Case-Fatality Ratio (CFR) of 5% (Table 1).

Table 1. Reported AMES Cases and Deaths by Region (N=3,953)
Philippines, January 1-December 31, 2018 vs 2017 same time period

Region	2018		2017		% Change
	Cases	Deaths	Cases	Deaths	
PHILIPPINES	3,953	179	3,927	248	↑1
I	465	17	455	17	↑2
II	243	11	388	60	↓37
III	664	19	654	47	↑2
IV-A	302	20	191	12	↑58
MIMAROPA	36	1	22	1	↑64
V	250	21	158	11	↑58
VI	325	10	480	15	↓32
VII	256	16	318	37	↓19
VIII	48	8	62	2	↓23
IX	52	8	74	13	↓30
X	198	6	224	2	↓12
XI	240	4	169	7	↑42
XII	116	6	63	1	↑84
ARMM	104	5	95	0	↑9
CAR	134	4	181	11	↓26
CARAGA	86	1	64	2	↑34
NCR	434	22	329	10	↑32

II. Profile of Cases

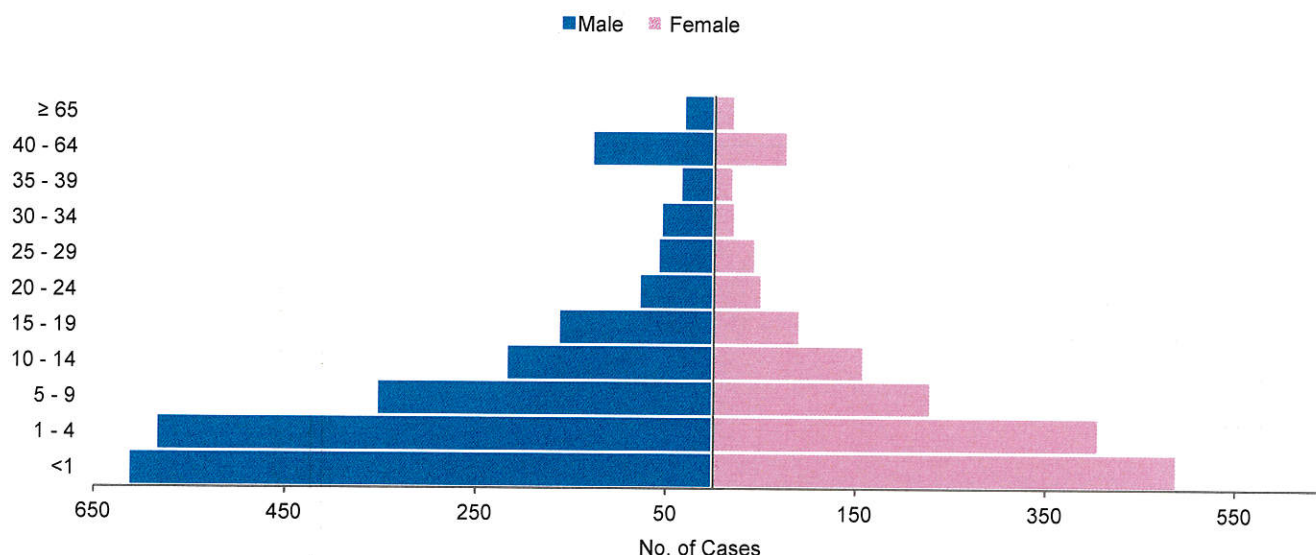
A. AMES Cases

1. Age group and Sex

Among the 3,953 suspect AMES cases, majority (2,327 59%) were male. Age ranges from less than 1 month to 86 years (median: 4 years). Majority (2,095, 53%) of those affected were children less than 5 years of age (Figure 2).

Figure 2. Reported AMES cases by Age group and Sex (N=3,953)*
Philippines, January 1 – December 31, 2018

Age group (years)



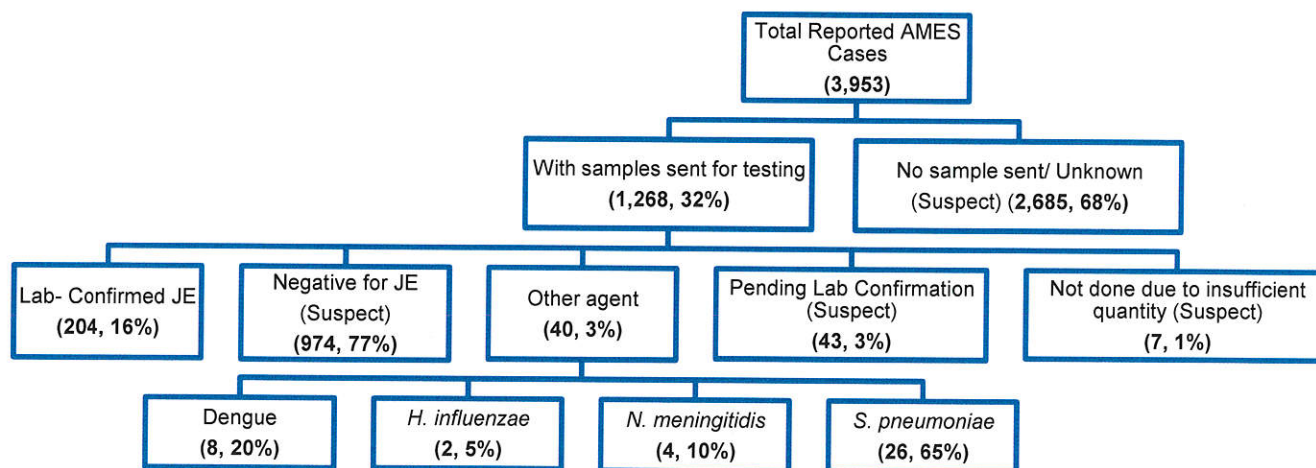
*16 cases with unspecified age



2. Laboratory Status

Out of the **3,953** AMES cases, **1,268 (32%)** cases had specimens sent to the Research Institute for Tropical Medicine (RITM) for virology to test for *Japanese encephalitis* (JE) IgM. Among tested, **204 (16%)** were laboratory confirmed JE. **974 (77%)** were negative for JE.

Figure 3. Reported AMES cases by Laboratory Status (N=3,953)
Philippines, January 1 – December 31, 2018

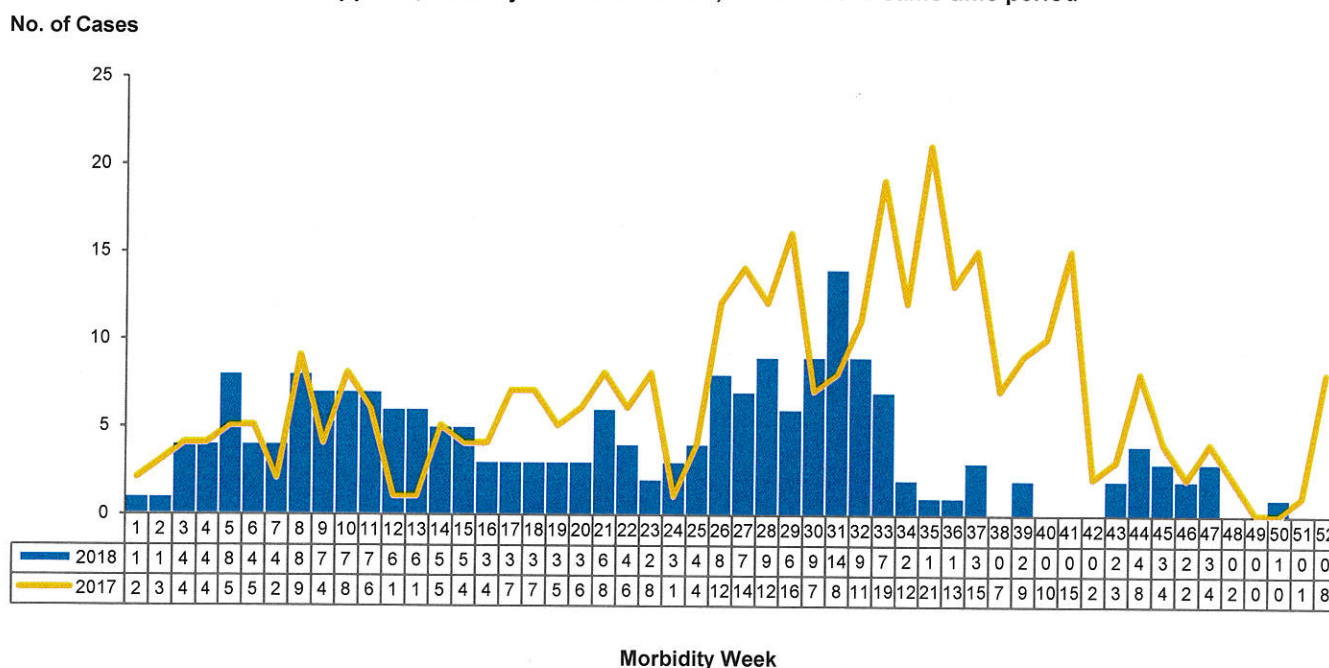


A. Confirmed Japanese Encephalitis Cases

1. Distribution of cases by Morbidity Week

Out of the **3,953** AMES cases, a total of **204** laboratory-confirmed JE cases were reported from January 1 to December 31, 2018 or Morbidity Week 1 - 52 (Figure 4). This is **42% lower** than same period last year (n=354).

Figure 4. Distribution of Confirmed JE Cases by Morbidity Week (n=204)
Philippines, January 1 – December 31, 2018 vs 2017 same time period





2. Geographic Distribution

Most of the lab-confirmed JE cases were reported from **Region III (64, 31%)**, **Region I (39, 19%)** and **Region II (26, 13%)**. Likewise, Regions VI, XII, ARMM, and CAR showed an increased number of cases compared with the same time period in 2017. There were seven (7) reported JE deaths with a CFR of 3% (Table 2).

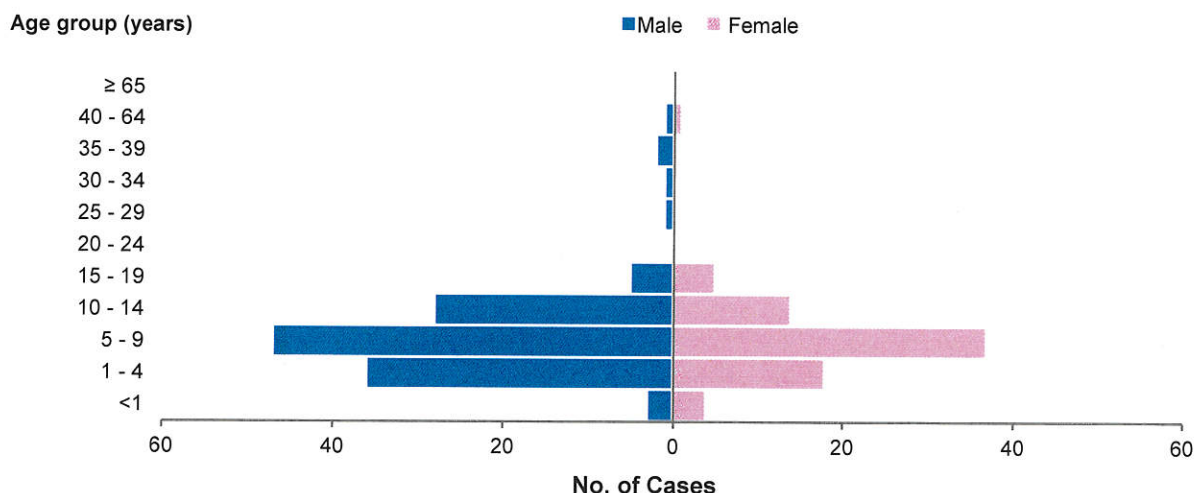
Table 2. Confirmed Japanese Encephalitis Cases and Deaths by Region (n=204)
Philippines, January 1 – December 31, 2018 vs 2017 same time period

Region	2018		2017		% Change
	Cases	Deaths	Cases	Deaths	
PHILIPPINES	204	7	354	23	↓42
I	39	0	89	4	↓56
II	26	2	48	6	↓46
III	64	2	111	8	↓42
IV-A	5	1	16	1	↓69
MIMAROPA	2	0	6	0	↓67
V	10	0	21	0	↓52
VI	18	0	12	0	↑50
VII	3	0	7	0	↓57
VIII	1	0	2	0	↓50
IX	1	1	2	0	↓50
X	0	0	5	0	↓100
XI	8	0	8	0	0
XII	4	0	2	1	↑100
ARMM	2	0	0	0	↑
CAR	19	1	16	1	↑19
CARAGA	1	0	3	1	↓67
NCR	1	0	6	1	↓83

3. Age group and Sex

Among the **204** confirmed JE cases, majority (**124, 61%**) were male. Age ranges from **1 month to 48 years** (median: 7 years). Most of those affected were children 5 to 9 years of age (**84, 41%**) (Figure 5).

Figure 5. Confirmed Japanese Encephalitis Cases by Age group and Sex (n=204)*
Philippines, January 1 – December 31, 2018





B. Confirmed Japanese Encephalitis Deaths

There were seven (7) reported confirmed JE deaths (CFR= 3%)

- Age range: 4 – 99 years old
(median: 13 years)
- Most affected age group: 10-14 years old (3, 43%)
- Sex distribution:
 - Male: 5 (71%)
 - Female: 2 (29%)
- JE Vaccination Status: None