



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:

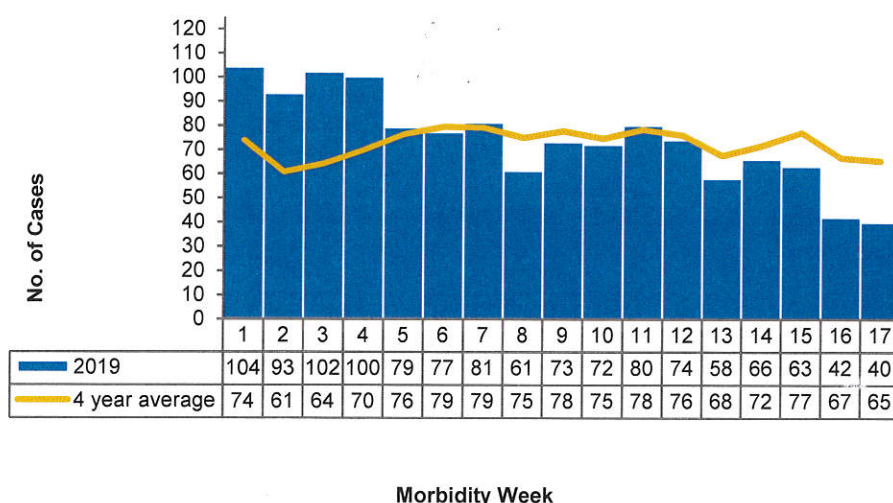
Japanese encephalitis cases are captured under AMES, which comes from the combined surveillance data of AMES from the sentinel sites, and the surveillance data of Acute Encephalitis Syndrome (AES) and Bacterial Meningitis (BM). The case definition for AMES shall be the combined case definition of AES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

Trends in the Philippines

A total of 1,265 AMES cases were reported from January 1 to April 27, 2019 or Morbidity Weeks 1 to 17. The distribution of AMES cases for 2019 compared to the 4 year average of cases from 2015 to 2018 is shown below (Figure 1).

**Figure 1. Reported AMES cases by Morbidity Week (N=1,265)
Philippines, January 1 – April 27, 2019**



*AMES surveillance only started in 2015

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¹ Lopez, A.L. et al, 2013



AMES CASES

I. Geographic Distribution of Cases

Most of the cases came from Region III (201 or 16%), NCR (138 or 11%) and Region I (119 or 9%). Likewise, Regions II, MIMAROPA, XI, XII, ARMM and CARAGA showed an increased number of cases compared with the same time period in 2018. There were 63 reported deaths with a Case-Fatality Ratio (CFR) of 5% (Table 1).

Table 1. Reported AMES Cases and Deaths by Region (N=1,265)
Philippines, January 1-April 27, 2019 vs 2018

Region	2019		2018		% Change
	Cases	Deaths	Cases	Deaths	
PHILIPPINES	1,265	63	1,469	66	↓14
I	119	8	188	7	↓37
II	116	4	71	3	↑63
III	201	2	278	10	↓28
IV-A	104	4	107	5	↓3
MIMAROPA	21	0	17	1	↑24
V	53	2	99	6	↓46
VI	118	3	125	7	↓6
VII	75	8	97	7	↓23
VIII	3	0	13	2	↓77
IX	24	2	26	4	↓8
X	35	0	84	2	↓58
XI	83	1	81	1	↑2
XII	38	1	31	1	↑23
ARMM	79	10	39	1	↑103
CAR	25	1	39	1	↓36
CARAGA	33	1	32	1	↑3
NCR	138	16	142	7	↓3

II. Profile of Cases

A. AMES Cases

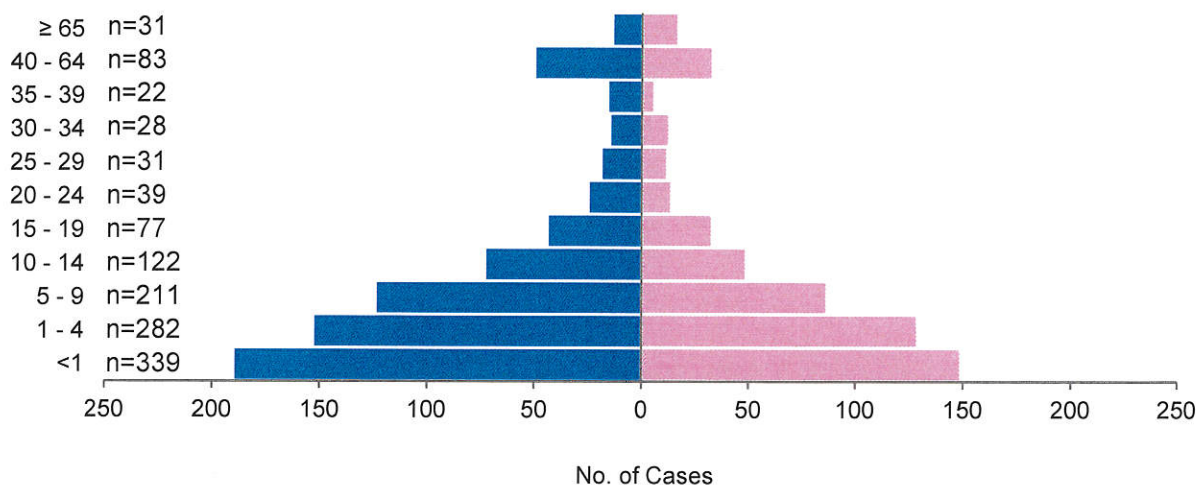
1. Age group and Sex

Among the 1,265 suspect AMES cases, majority (723 or 57%) were male. Age range from less than 1 month to 97 years (median: 5 years). Majority (621 or 49%) of those affected were children less than 5 years of age (Figure 2).

Figure 2. Reported AMES cases by Age group and Sex (N=1,265)*
Philippines, January 1 – April 27, 2019

Age group (years)

■ Male ■ Female



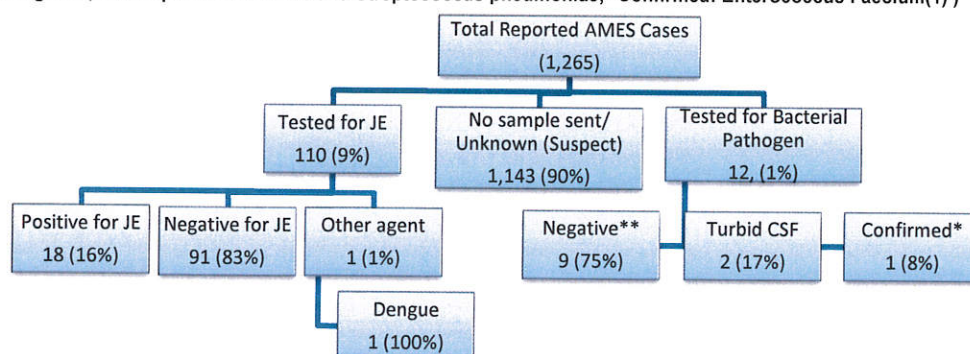


2. Laboratory Status

Out of the 1,265 AMES cases, 110 (9%) had specimens sent to the Research Institute for Tropical Medicine (RITM) to test for Japanese encephalitis (JE) IgM. Among those tested, 18 (16%) were laboratory confirmed JE. 91 (83%) were negative for JE.

Figure 3. Reported AMES cases by Laboratory Status (N=1,265)
Philippines, January 1 – April 27, 2018

(**Negative: for N. meningitidis, Haemophilus influenzae and Streptococcus pneumoniae; *Confirmed: Enterococcus Faecium(1))



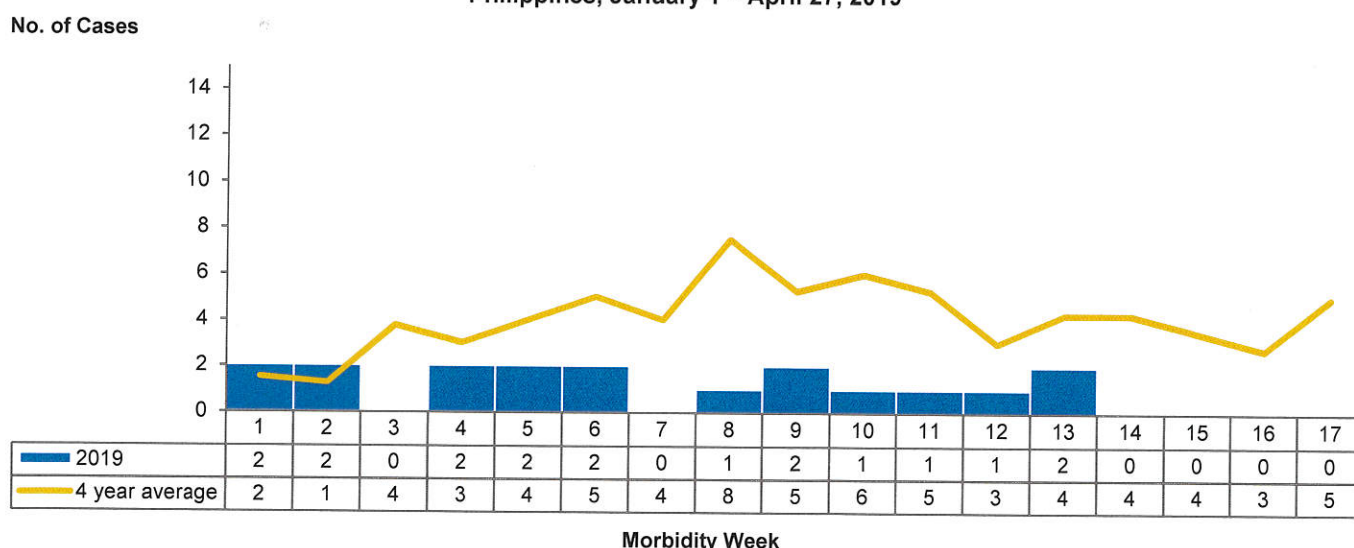
CONFIRMED JAPANESE ENCEPHALITIS CASES

A. Confirmed Japanese Encephalitis Cases

1. Distribution of cases by Morbidity Week

Out of the 1,265 AMES cases, a total of 18 laboratory-confirmed JE were reported from January 1 to April 27, 2019 or Morbidity Week 1 – 17. The distribution of AMES cases for 2019 compared to the 4-year average of cases from 2015 to 2018 is shown below. (Figure 4).

Figure 4. Distribution of Confirmed JE Cases by Morbidity Week (n=18)
Philippines, January 1 – April 27, 2019





Most of the lab-confirmed JE cases were reported from **Region III (6 or 33%)**. Likewise, Region XII showed an increased number of case compared with the same time period in 2018. (Table 2).

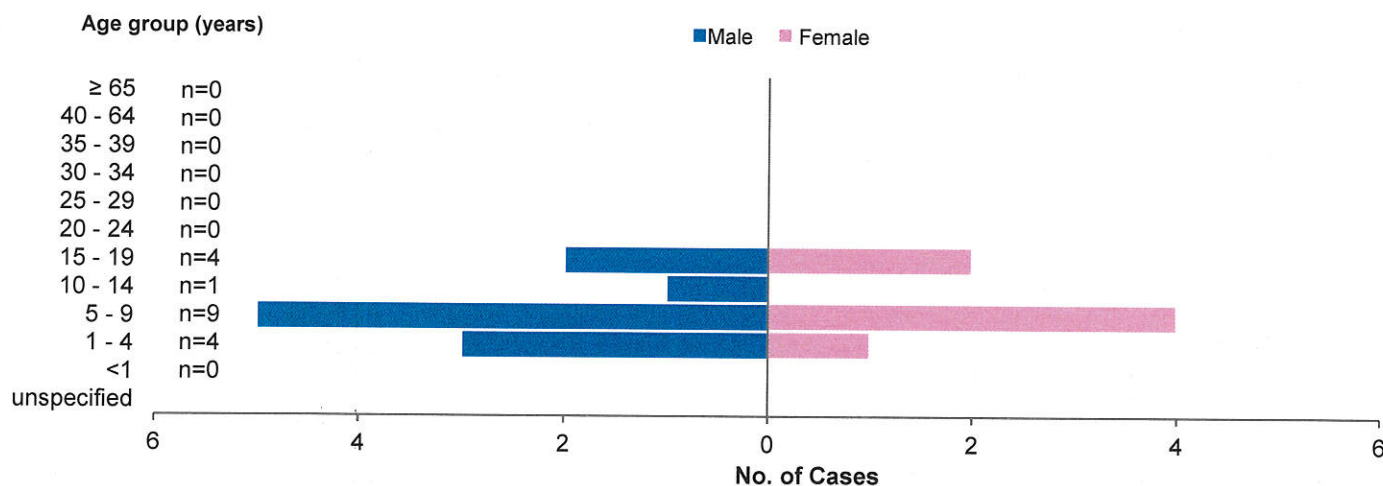
Table 2. Confirmed Japanese Encephalitis Cases and Deaths by Region (n=18)
Philippines, January 1 – April 27, 2019 vs 2018 same time period

Region	2019		2018		% Change
	Cases	Deaths	Cases	Deaths	
PHILIPPINES	18	1	83	4	↓78
I	4	1	9	0	↓56
II	4	0	11	1	↓64
III	6	0	40	2	↓85
IV-A	0	0	0	0	-
MIMAROPA	2	0	2	0	0
V	0	0	3	0	↓100
VI	0	0	4	0	↓100
VII	0	0	2	0	↓100
VIII	0	0	0	0	-
IX	0	0	1	1	↓100
X	0	0	0	0	-
XI	0	0	2	0	↓100
XII	1	0	0	0	↑
ARMM	0	0	0	0	-
CAR	1	0	8	0	↓88
CARAGA	0	0	1	0	↓100
NCR	0	0	0	0	-

3. Age group and Sex

Among the 18 confirmed Japanese Encephalitis cases, majority (11 or 61%) were male. Age ranges from 3 years to 17 years (median: 7 years) (Figure 5).

Figure 5. Confirmed Japanese Encephalitis Cases by Age group and Sex (n=18)*
Philippines, January 1 – April 27, 2019



4. Profile of Reported JE Death:

- One death (CFR: 5.5%) was reported from the province of Pangasinan among Confirmed JE cases
- Age: 17 years old
- Sex: Male