



January 1- March 4, 2017

Epidemiology Bureau
Public Health Surveillance Division

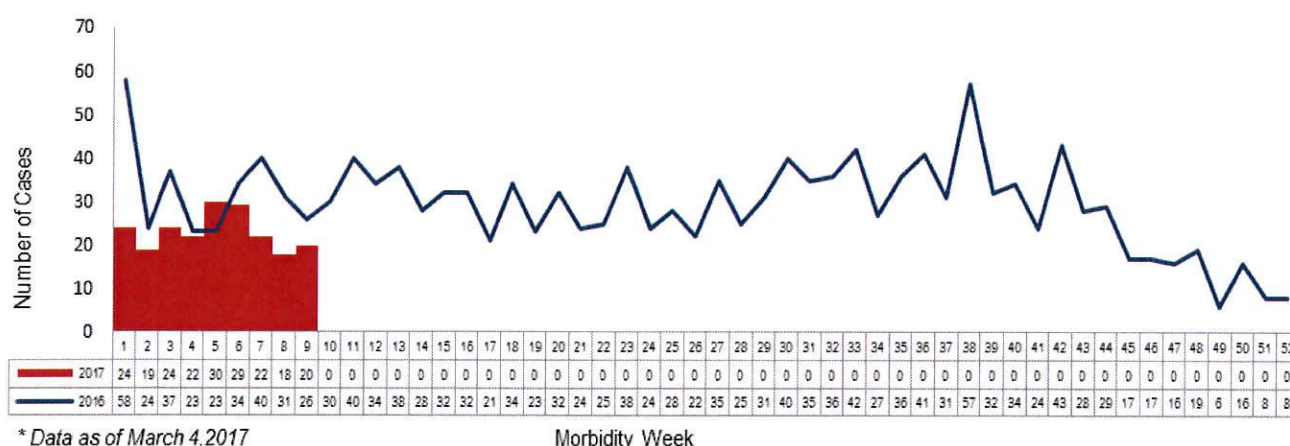
Introduction

The Acute Meningitis-Encephalitis Syndrome (AMES) Surveillance, established in 2014 aimed for an integrated surveillance for on Acute Encephalitis Syndrome (AES) and Bacterial Meningitis (BM). Currently, there are 9 AMES sentinel sites nationwide. (see page 4 for list of sites)

Trend in the Philippines

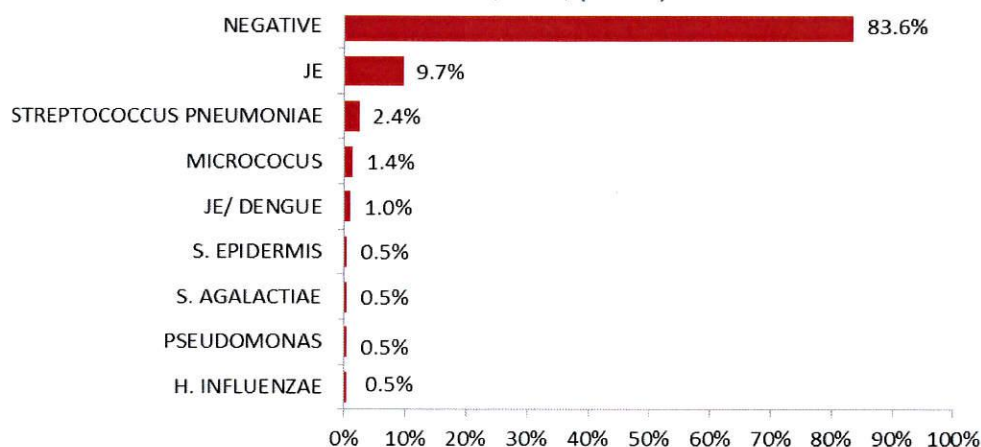
A total of 208 suspected AMES cases were reported from selected sentinel sites from January 1 to March 4, 2017 (Figure 1). This is 30% lower compared to the same period last year (296).

**Figure 1. Reported AMES Cases by Morbidity Week,
2016 vs 2017*, (N=1742)**



Out of the total AMES suspected cases, 207 (99.5%) have specimens (CSF, Serum 1 or 2). For those cases with specimen collected (Figure 2), 8.8% were laboratory confirmed Japanese Encephalitis (JE) cases, while almost 6% (14) were positive for other organisms such as : Streptococcus Pnuemoniae (5); Micrococcus (4) ; JE & Dengue (2); S. Epidermis (1) ; S. Agalactiae (1) ; Psuedomonas(1) ; Neisseria Meningitidis (1), and H. Influenzae(1).

**Figure 2. Reported AMES Cases by Laboratory Result,
Jan 1- Mar 4, 2017, (n=207)**



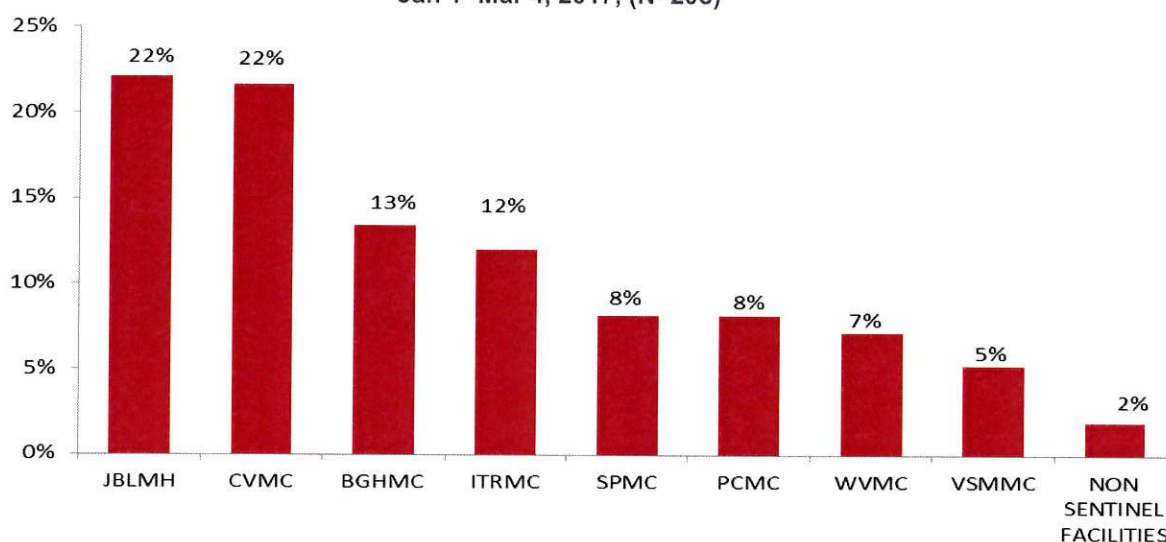


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The distribution of suspected AMES cases varied considerably among the sentinel sites (Figure 3). Most (24%) of the reported cases were from Jose B. Lingad Memorial Hospital (JBLMH), followed by Cagayan Valley Medical Center (CVMC) – 20% and Baguio General Hospital and Medical Center (BGHMC)- 15%. Cases from non-sentinel sites were also reported comprising 2 % of the total case.

Figure 3. Reported AMES Cases by Disease Reporting Unit,
Jan 1- Mar 4, 2017, (N=208)



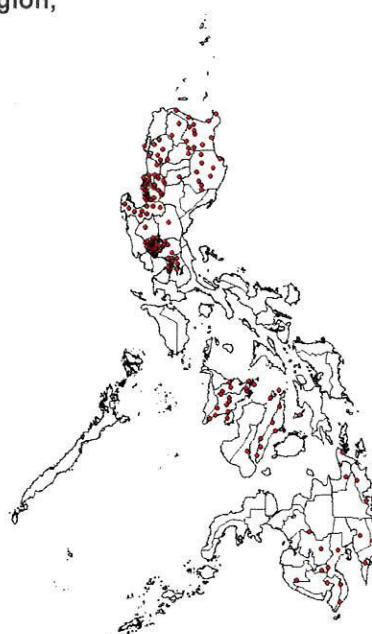
Geographic Distribution

Most of the cases (Figure 4) were from the following regions: Region III (24%); Region II (19%); Region I (14%); CAR (13%), and Region VI (9%). In terms of Province, Pampanga comprised of 22 % of reported cases followed by Cagayan 14%) and La Union (7%).

FIGURE 4. Reported AMES Cases by Region,
Jan 1 – Mar 4, 2017, (N=208)

| Region | Cases |
|--------|-------|
| 1 | 30 |
| 2 | 39 |
| 3 | 50 |
| 04A | 3 |
| 04B | 0 |
| 5 | 0 |
| 6 | 18 |
| 7 | 12 |
| 8 | 0 |
| 9 | 0 |
| 10 | 0 |
| 11 | 7 |
| 12 | 5 |
| CAR | 28 |
| CARAGA | 5 |
| NCR | 11 |
| ARMM | 0 |
| Total | 208 |

LEGEND
1 Dot = 1 Case





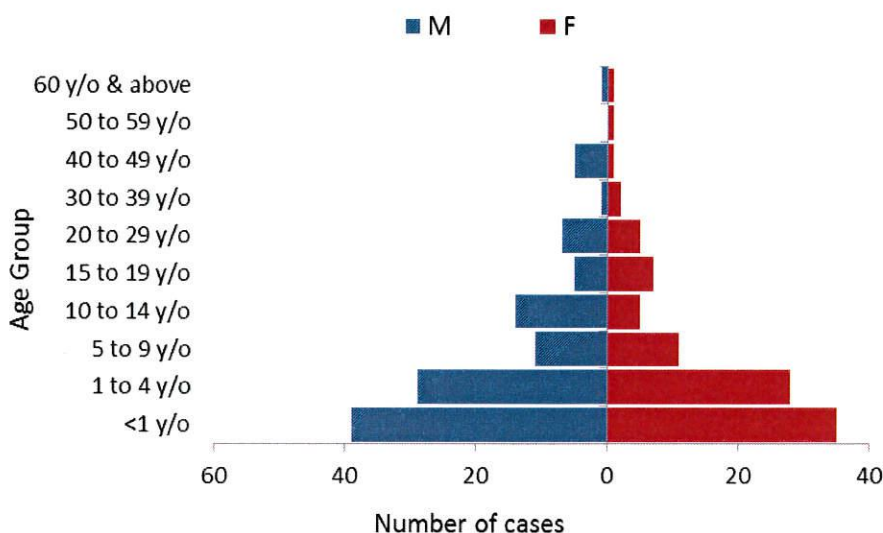
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Profile of cases

Age of cases ranged from 0 to 73 years old , median of 1 year old (Figure 5). Most (54%) cases were males and majority (36%) are from the below 1 year old age-group.

Figure 5. Reported AMES by Age and Sex,
Jan 1 – Mar 4, 2017, (N=208)



Vaccination Status of Reported AMES Case

A portion of AMES cases have received vaccination against meningitis-encephalitis causing disease: Measles vaccine (14%) ; Haemophilus Influenza (Hib) Type B (12%) ; Measles-Mumps Rubella (11%), Pneumococcal Conjugate Vaccine 10 (1%) , and Pneumococcal Conjugate Vaccine 13 (0.5 %). None of the reported AMES cases received vaccination for Japanese Encephalitis and Meningococcal Vaccine.

Signs and Symptoms reported by AMES cases

Majority of suspected AMES cases experienced fever (96%) and seizure (69%), half (50%) noted to have behavioral changes while a lesser proportion experienced Meningeal Signs* (20%) and stiff neck (16%). The difference of reported signs and symptoms of confirmed JE against non JE cases and Confirmed Meningitis against suspect cases does not vary widely. This suggests that laboratory test is more definitive in diagnosing encephalitis-meningitis cases than relying on clinical signs and symptoms.

Table 1. Signs & Symptoms reported by AMES,
Jan 1 – Mar 4, 2017, (N=208)

| Signs & Symptoms | All Cases | JE Against Non JE | | Confirmed Meningitis v.s Suspect | |
|-------------------|-----------|-------------------|--------|----------------------------------|---------|
| | | JE | Non JE | Confirmed | Suspect |
| Fever | 96% | 100% | 95% | 100% | 95% |
| Behavioral Change | 50% | 82% | 46% | 67% | 48% |
| Seizure | 69% | 55% | 71% | 67% | 69% |
| Stiff Neck | 17% | 0.1% | 18% | 33% | 17% |
| Meningeal Sign * | 21% | 27% | 20% | 33% | 20% |

* Meningeal Sign:

Brudzinski's sign – severe neck stiffness which causes a patient's hips and knees to flex when the neck is flexed;

Kernig's sign – severe stiffness of the hamstrings which causes an inability to straighten the leg when the hip is flexed to 90 degrees.



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Japanese Encephalitis (JE) was the most (11%) common etiologic agent found on samples among reported AMES cases, 3% of cases were classified as Confirmed and 4% as Probable meningitis while majority (85%) of the cases remain as suspect AMES case where the etiology is unknown and probably not yet being tested in the country.

Six (6) deaths were reported with case fatality rate of 3 %. All deaths had negative laboratory result. No deaths were reported from Laboratory confirmed cases (Encephalitis or Meningitis)

The median interval from date of onset of symptoms to date of admission among cases who were Alive was 2 days while 6.5 days among cases who died (Table 2). This may suggest that health seeking behavior is a factor in the prognosis on cases reported as AMES.

Figure 6. Reported AMES Cases by Classification, Jan 1 – Mar 4, 2017, (N=208)

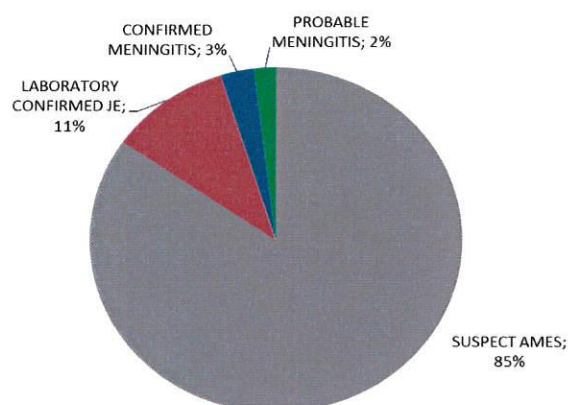


Table 2. Median Interval of Date of Onset of Symptoms to Date of Admission by Outcome, Jan 1-Mar 4 2017 (N=208)

| OUTCOME | CASES | MEDIAN |
|---------|-------|----------|
| ALIVE | 202 | 3 days |
| DIED | 6 | 6.5 days |
| TOTAL | 208 | 3 days |

CASE DEFINITION of Acute Meningitis-Encephalitis Surveillance

A combined case definition for BM and AES surveillance shall be used. Suspected cases will be captured through the standard case definition of **Acute Meningitis-Encephalitis Surveillance** System (which includes meningitis, encephalitis, and overlapping cases)

A case of suspected Acute Meningitis-Encephalitis is a person of any age, WITH a sudden onset of fever, plus one of the following:

- change in mental status (including altered consciousness, confusion, or inability to talk)
- new onset of seizures
- neck stiffness
- other meningeal sign

Selected Sentinel Sites of Acute Meningitis-Encephalitis Surveillance (AMES)

Region I- Ilocos Training Regional Medical Center (ITRMC)
Region II- Cagayan Valley Medical Center (CVMC)
Region III- Jose B. Lingad Memorial Regional Hospital (JBLMH)
Region V- Bicol Medical Center (BMC)
Region VI- Western Visayas Medical Center (WVMC)
Region VII- Vicente Sotto Memorial Medical Center (VSMMC)
Region XI- Southern Philippines Medical Center (SPMC)
Region NCR- Philippine Children's Medical Center (PCMC)
Region CAR- Baguio General Hospital and Medical Center (BGHMC)

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