Introduction

The Epidemiology Bureau (EB) is mandated to oversee disease surveillance functions. It established the Philippine Integrated Disease Surveillance and Response (PIDSIR) system in 2007 under which the bacterial meningitis (BM) and acute encephalitis syndrome (AES) surveillance falls.

BM is an illness clinically characterized by fever, neck stiffness, altered consciousness and other meningeal signs such as bulging fontanelle, Kernig’s and/or Brudzinski’s sign. Majority of the bacterial meningitis affecting young children are caused by three vaccine-preventable organisms: Haemophilus influenza type b (Hib), Streptococcus pneumoniae and Neisseria meningitidis. In the Philippines, the surveillance system targets bacterial meningitis of all age groups. These organisms cause severe invasive disease affecting the central nervous system (CNS) (meningitis), lungs (pneumonia) and blood (sepsis).

Meanwhile, AES is an illness clinically characterized by fever, change in mental status and/or new onset of seizures (excluding simple febrile seizures in children). This is used as a surrogate syndrome for Japanese Encephalitis (JE) cases in surveillance. In the Philippines, JE has been detected in swine and mosquitoes, respectively.

In 2014, an integrated surveillance for Acute Meningitis-Encephalitis Syndrome (AMES) Surveillance was initiated because both AES and BM present as acute central nervous system (CNS) infections with overlapping case presentations. This may result in difficulties in distinguishing the two syndromes. As such, cerebrospinal fluid (CSF) is important in the diagnosis and laboratory confirmation of both disorders.

NOTE: Disease counts reported here do NOT represent the final number and are subject to change after inclusion of delayed reports and review of cases.
Trend

A total of 54 AMES suspected cases were reported from selected sentinel sites from January 1 to 30, 2016 (Figure 1). This is 10% lower compared to the same period last year (60). Of these, 48 (89%) specimens (CSF, Serum 1 &2) were collected and 6 (11%) without specimen. Of the collected specimens, there was 1 (2%) laboratory confirmed Japanese Encephalitis case, 21 (44%) cases with negative laboratory results and 26 (54%) pending results.

Geographic distribution

The distribution of suspected AMES cases varied considerably among the sentinel sites (Figure 2). Most of the reported cases were from Baguio General Hospital and Medical Center (24%), Vicente Sotto Memorial Medical Center (20%) and Jose B. Lingad Memorial Hospital (17%) (Figure 2).

Profile of cases

Most of the suspected AMES cases were among 0 to 11 months old (30%) and 1 to 10 years old (57%) (Figure 3). Sixty-one percent of the suspected AMES cases were male (Figure 3). Among the suspected AMES cases, 41% received vaccinations which are measles vaccine, MMR and Haemophilus Influenza type b and 69% did not receive any immunization (Figure 4). Two among the suspected AMES died (CFR=3.70).

Figure 1. Suspected AMES Cases by Morbidity Week, Philippines, as of January 30, 2016
2016* vs 2015 (N=54)

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FIGURE 2. REPORTED AMES CASES AND LABORATORY RESULTS BY SENTINEL, PHILIPPINES, JANUARY 1 – 30, 2016 (N=54)

Note: Cerebrospinal Fluid (CSF) and serum (acute and convalescent phase) are collected and tested in RITM to confirm the diagnosis. (see list of AMES sentinel sites in the last page)

FIGURE 3. AMES CASES BY AGE GROUP AND SEX, PHILIPPINES JANUARY 1 – 30, 2016 (N=54)
ACUTE MENINGITIS-ENCEPHALITIS SYNDROME SURVEILLANCE CASES

Morbidity Week 4 – January 1-30, 2016

FIGURE 4. NUMBER OF IMMUNIZED AMONG SUSPECTED ACES CASES BY AGE GROUP
PHILIPPINES, 2016 (n=22)

Age Group
- Japanese Encephalitis
- Haemophilus Influenza type B
- Pneumococcal Conjugate Vaccine 13
- Meningococcal Vaccine
- Measles Vaccine
- MMR Vaccine

FIGURE 5. SUSPECTED ACUTE MENINGITIS ENCEPHALITIS SYNDROME DEATHS, JANUARY 1-30, 2016

REGION | CASES
--- | ---
Region 1 | 0
Region 2 | 0
Region 3 | 1
Region 4A | 0
Region 4B | 0
Region 5 | 0
Region 6 | 0
Region 7 | 1
Region 8 | 0
Region 9 | 0
Region 10 | 0
Region 11 | 0
Region 12 | 0
ARMM | 0
CAR | 0
CARAGA | 0
NCR | 0
TOTAL | 2

LEGEND
1 Dot = 1 Case

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### TABLE 1. TOTAL NUMBER OF CEREBROSPINAL FLUID (CSF), SERUM 1 & 2 COLLECTED FROM SUSPECTED AMES CASES AND NUMBER OF DEATHS PER SENTINEL SITE, JANUARY 30, 2016

<table>
<thead>
<tr>
<th>AMES Sentinel Site</th>
<th>Number of Suspected AMES Cases</th>
<th>Number of CSF collected</th>
<th>Samples received &lt;1 hour</th>
<th># Serum 1 specimen collected (Acute)</th>
<th># Serum 2 specimen collected (Convalescent)</th>
<th>Number of Deaths</th>
<th>CFR (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ilocos Training Regional Medical Center</td>
<td>3</td>
<td>3(100%)</td>
<td>3(100%)</td>
<td>0 1(33%) 2(67%)</td>
<td>1 0 0</td>
<td>0</td>
<td>0.00</td>
</tr>
<tr>
<td>Cagayan Valley Medical Center</td>
<td>3</td>
<td>3(100%)</td>
<td>3(100%)</td>
<td>0 3(100%)</td>
<td>0 0 0</td>
<td>0</td>
<td>0.00</td>
</tr>
<tr>
<td>Jose B. Lingad Memorial Regional Hospital</td>
<td>9</td>
<td>6(67%)</td>
<td>6(100%)</td>
<td>0 0 6(100%)</td>
<td>0 1(13%) 7(87%)</td>
<td>4</td>
<td>11.11</td>
</tr>
<tr>
<td>Bicol Medical Center</td>
<td>5</td>
<td>1(20%)</td>
<td>1(100%)</td>
<td>0 0 1(100%)</td>
<td>0 0 0</td>
<td>0</td>
<td>0.00</td>
</tr>
<tr>
<td>Western Visayas Medical Center</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>0 0 0</td>
<td>0 0 0</td>
<td>0</td>
<td>0.00</td>
</tr>
<tr>
<td>Vicente Sotto Memorial Medical Center</td>
<td>11</td>
<td>11(100%)</td>
<td>11(100%)</td>
<td>0 3(27%) 8(73%)</td>
<td>0 0 0</td>
<td>1</td>
<td>9.09</td>
</tr>
<tr>
<td>Southern Philippines Medical Center</td>
<td>5</td>
<td>5(100%)</td>
<td>5(100%)</td>
<td>1(20%) 1(20%) 3(60%)</td>
<td>0 1(20%) 3(60%)</td>
<td>4</td>
<td>0.00</td>
</tr>
<tr>
<td>Philippine Children's Medical Center</td>
<td>4</td>
<td>4(100%)</td>
<td>4(100%)</td>
<td>0 4(100%)</td>
<td>0 2(67%) 1(33%)</td>
<td>3</td>
<td>0.00</td>
</tr>
<tr>
<td>Baguio General Hospital and Medical Center</td>
<td>13</td>
<td>12(92%)</td>
<td>8(67%)</td>
<td>0 8(67%) 4(33%)</td>
<td>0 4(57%) 3(43%)</td>
<td>7</td>
<td>0.00</td>
</tr>
<tr>
<td><strong>Grand Total</strong></td>
<td><strong>54</strong></td>
<td><strong>45 (83%)</strong></td>
<td><strong>37 (82%)</strong></td>
<td><strong>1 (2%)</strong> <strong>20 (44%)</strong> <strong>24 (53%)</strong></td>
<td><strong>45 0 9 (38%) 14 (58%)</strong> <strong>23</strong> <strong>0 3 (33%) 5 (56%)</strong></td>
<td><strong>8</strong></td>
<td><strong>3.70</strong></td>
</tr>
</tbody>
</table>

Note: All cases with dengue result, samples not tested and with no sample are not included in the classification as positive, negative or pending (n², n³, n⁴)

²SPMC: 1 Dengue case; ³SPMC: 1 Dengue case

*P-Positive, N-Negative and Pn-Pending

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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

Region I- Ilocos Training Regional Medical Center
Region II- Cagayan Valley Medical Center
Region III- Jose B. Lingad Memorial Regional Hospital
Region V- Bicol Medical Center
Region VI- Western Visayas Medical Center
Region VII- Vicente Sotto Memorial Medical Center
Region XI- Southern Philippines Medical Center
Region NCR- Philippine Children’s Medical Center
Region CAR- Baguio General Hospital and Medical Center

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