ACUTE MENINGITIS-ENCEPHALITIS SYNDROME SURVEILLANCE
CASES IN THE PHILIPPINES

Introduction

The Epidemiology Bureau (EB) mandated to oversee disease surveillance functions. It established the Philippine Integrated Disease Surveillance and Response (PIDS) system in 2007 under which the Bacterial Meningitis and Acute Encephalitis Syndrome (AES) surveillance falls. An integrated surveillance for Acute Meningitis-Encephalitis Syndrome (AMES) Surveillance was initiated because both AES and bacterial meningitis present as acute Central Nervous System (CNS) infections. With such overlap in the case presentations, this may result in difficulties in distinguishing the two syndromes. Moreover, cerebrospinal fluid (CSF) is important in the diagnosis and laboratory confirmation of both disorders.

Acute Encephalitis Syndrome (AES) is an illness clinically characterized by fever, change in mental status and/or new onset of seizures (excluding simple febrile seizures in children). AES 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. JE is believed to be endemic in the whole country with laboratory confirmed infections from various parts of the country.

Majority of the bacterial meningitis affecting young children are caused by three vaccine-preventable organisms: Haemophilus influenzae 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).

Trend

A total of 46 AMES suspected cases were reported from selected sentinel sites from January 1 to March 7, 2015 (Figure 1). All laboratory results from 4 sentinel sites are still pending (Table 1). Most (61%) of the cases were reported in January of this year.

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 (57%) and Jose B. Lingad Memorial Hospital (26%) (Figure 2).

Profile of cases

Sixty-three percent of suspected AMES cases are less than 1 year old (Figure 3). Fifty-two percent of the suspected AMES cases were male (Figure 3). Among the suspected AMES cases, 24% received vaccinations which are measles vaccine, MMR, Haemophilus Influenza type b and meningococcal vaccine (Figure 4). None died (CFR=0.0%).

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Figure 1. SUSPECTED CASES AND LABORATORY RESULTS BY MORBIDITY MONTH, PHILIPPINES JANUARY 1 – MARCH 7, 2015 (N=46)

Note: Cerebrospinal Fluid (CSF) and serum (acute and convalescent phase) are collected and tested in RITM to confirm the diagnosis.

Figure 2. SUSPECTED CASES AND LABORATORY RESULTS PER SENTINEL SITE, JANUARY 1 – MARCH 7, 2015

(see list of AMES sentinel sites in the last page)
### TABLE 1. TOTAL NUMBER OF CEREBROSPINAL FLUID (CSF), SERUM 1 & 2 COLLECTED FROM SUSPECTED AMES CASES AND NUMBER OF DEATHS PER SENTINEL SITE, MARCH 7, 2015

<table>
<thead>
<tr>
<th>AMES Sentinel Site</th>
<th>Number of Suspected AMES Cases</th>
<th>Lumbar Puncture (LP) specimen collected</th>
<th>Samples received &lt;1 hour</th>
<th>Samples with culture results</th>
<th>Result</th>
<th>*P</th>
<th>*N</th>
<th>*Pn</th>
<th>Total</th>
<th>Result</th>
<th>*P</th>
<th>*N</th>
<th>*Pn</th>
<th>Total</th>
<th>Result</th>
<th>*P</th>
<th>*N</th>
<th>*Pn</th>
<th>Total</th>
<th>Number of Deaths</th>
<th>CFR (%)</th>
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<tr>
<td>Ilocos Training Regional Medical Center</td>
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<tr>
<td>Vicente Sotto Memorial Medical Center</td>
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<td>12(100%)</td>
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<tr>
<td>Southern Philippines Medical Center</td>
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<tr>
<td>Baguio General Hospital and Medical Center</td>
<td>26</td>
<td>26(100%)</td>
<td>7(27%)</td>
<td>22(85%)</td>
<td>0</td>
<td>1(4%)</td>
<td>25(96%)</td>
<td>26</td>
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<td>26(100%)</td>
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<td>26(100%)</td>
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<tr>
<td>Grand Total</td>
<td>46</td>
<td>28(61%)</td>
<td>8(17%)</td>
<td>24(52%)</td>
<td>0</td>
<td>1(2%)</td>
<td>39(85%)</td>
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<td>41(89%)</td>
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<td>0</td>
<td>41(89%)</td>
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<td>0</td>
<td>0</td>
<td>0</td>
<td>41</td>
<td>0</td>
</tr>
</tbody>
</table>

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

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CASE DEFINITION of Acute Meningitis-Encephalitis Surveillance

A combined case definition for AES and BM surveillance shall be used. Suspected cases will be captured through the standard case definition of Acute Meningitis-Encephalitis Surveillance System (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:
- 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 1- Ilocos Training Regional Medical Center
Region 2- Cagayan Valley Medical Center
Region 3- Jose B. Lingad Memorial Regional Hospital
Region 5- Bicol Medical Center
Region 6- Western Visayas Medical Center
Region 7- Vicente Sotto Memorial Medical Center
Region 11- Southern Philippines Medical Center
Region NCR- Philippine Children's Medical Center
Region CAR- Baguio General Hospital and Medical Center

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.