



## Introduction

The Epidemiology Bureau (EB) is mandated to oversee disease surveillance functions. It established the Philippine Integrated Disease Surveillance and Response (PIDSR) 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).

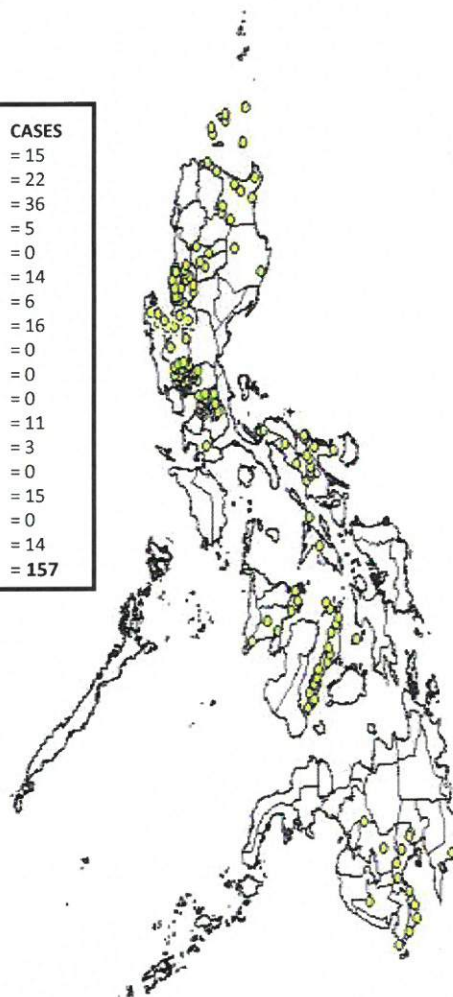
Meanwhile, AES is an illness clinically characterized by fever, change in mental status and/or new onset of seizures (excluding simple febrile seizures in children). This is used as a surrogate syndrome for Japanese Encephalitis (JE) cases in surveillance. In the Philippines, JE has been detected in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

## SUSPECTED ACUTE MENINGITIS ENCEPHALITIS SYNDROME CASES, MW6 (N=157)

REGION	CASES
Region 1	= 15
Region 2	= 22
Region 3	= 36
Region 4A	= 5
Region 4B	= 0
Region 5	= 14
Region 6	= 6
Region 7	= 16
Region 8	= 0
Region 9	= 0
Region 10	= 0
Region 11	= 11
Region 12	= 3
ARMM	= 0
CAR	= 15
CARAGA	= 0
NCR	= 14
<b>TOTAL</b>	<b>= 157</b>



LEGEND  
1 Dot = 1 Case



## Trend

A total of 157 AMES suspected cases were reported from selected sentinel sites from January 1 to February 27, 2016 (Figure 1). This is 37% higher compared to the same period last year (115). Of these, 142 (94%) specimens (CSF, Serum 1 & 2) were collected and 15 (6%) without specimen. Of the collected specimens, there was 11 (8%) laboratory confirmed Japanese Encephalitis case, 87 (61%) cases with negative laboratory results, 42 (30%) pending results and 2 (1%) specimens not tested.

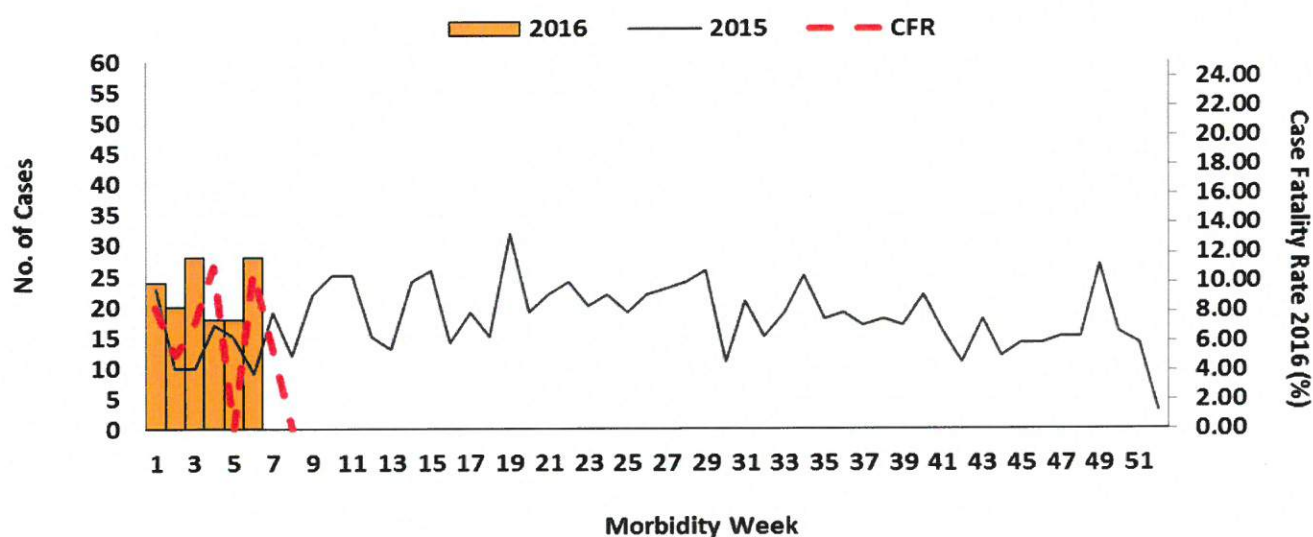
## Geographic distribution

The distribution of suspected AMES cases varied considerably among the sentinel sites (Figure 2). Most of the reported cases were from Jose B. Lingad Memorial Hospital (21%), Baguio General Hospital and Medical Center (17%), Cagayan Valley Medical Center (15%) and Philippine Children's Medical Center (14%) (Figure 2).

## Profile of cases

Most of the suspected AMES cases were among 0 to 11 months old (44%) and 1 to 10 years old (85%) (Figure 3). Fifty-eight percent of the suspected AMES cases were male (Figure 3). Among the suspected AMES cases, 35% received vaccinations which are measles vaccine, MMR, PCV 13 and Haemophilus Influenza type b and 65 % did not receive any immunization (Figure 4). Eleven among the suspected AMES died (CFR=7.01).

**Figure 1. Suspected AMES Cases by Morbidity Week, Philippines, as of February 27, 2016  
2016\* vs 2015 (N=157)**

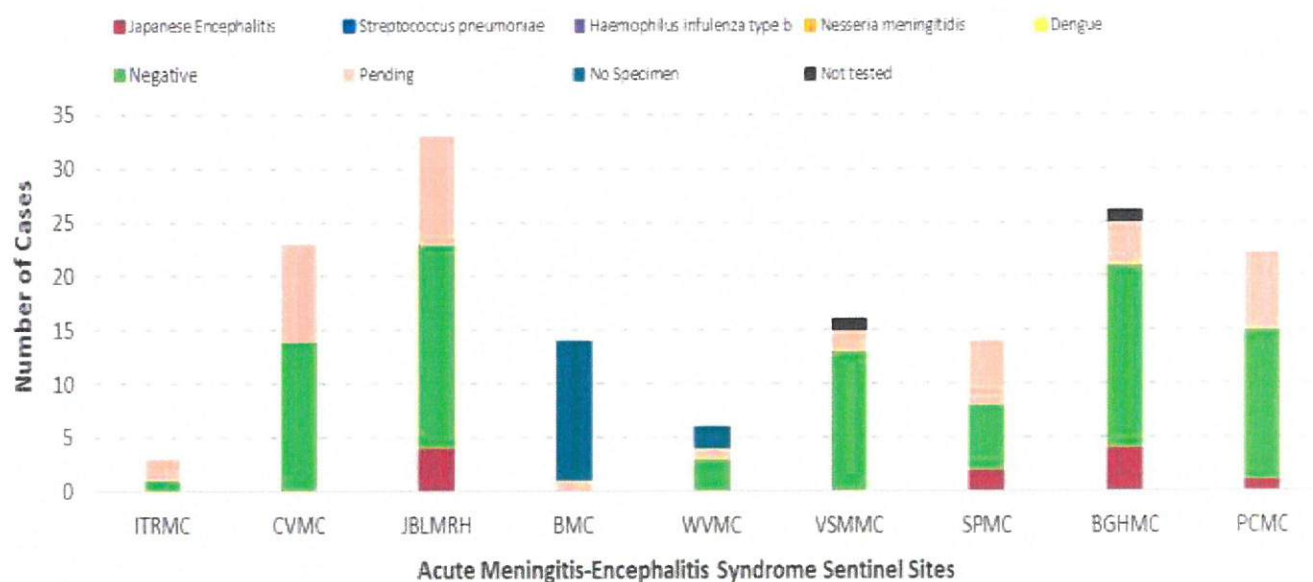




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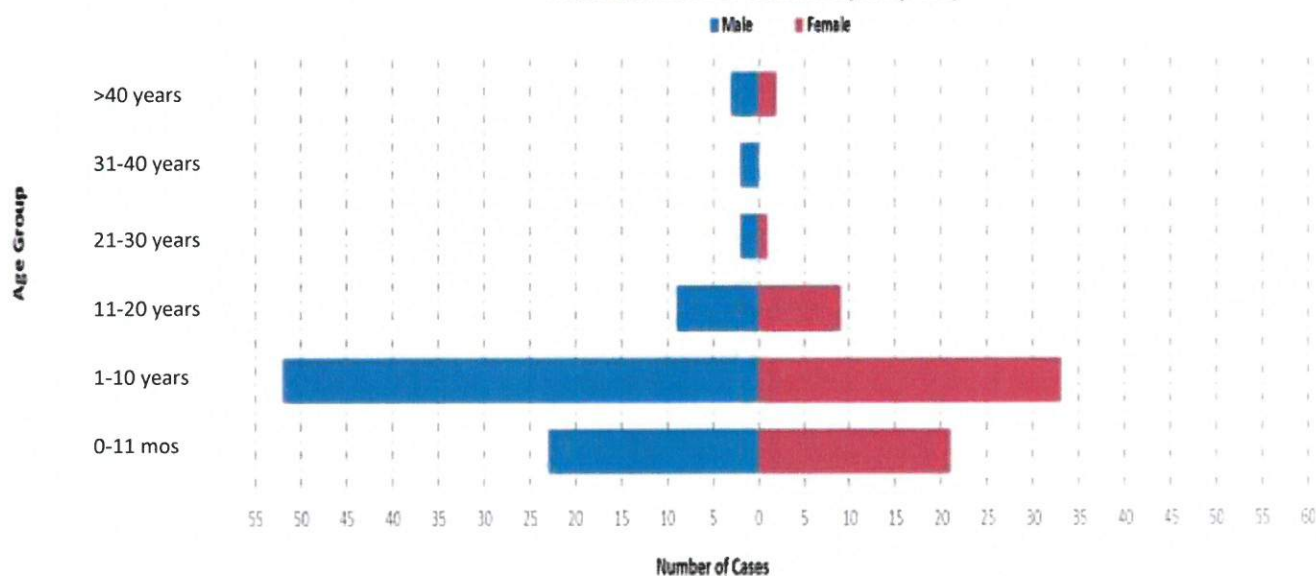
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**FIGURE 2. REPORTED AMES CASES AND LABORATORY RESULTS BY SENTINEL ,  
PHILIPPINES, JANUARY 1 – FEBRUARY 27, 2016 (N=157)**



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 – FEBRUARY 27, 2016 (N=157)**





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FIGURE 4. NUMBER OF IMMUNIZED AMONG SUSPECTED AMES CASES BY AGE GROUP  
PHILIPPINES, 2016 (n=55)

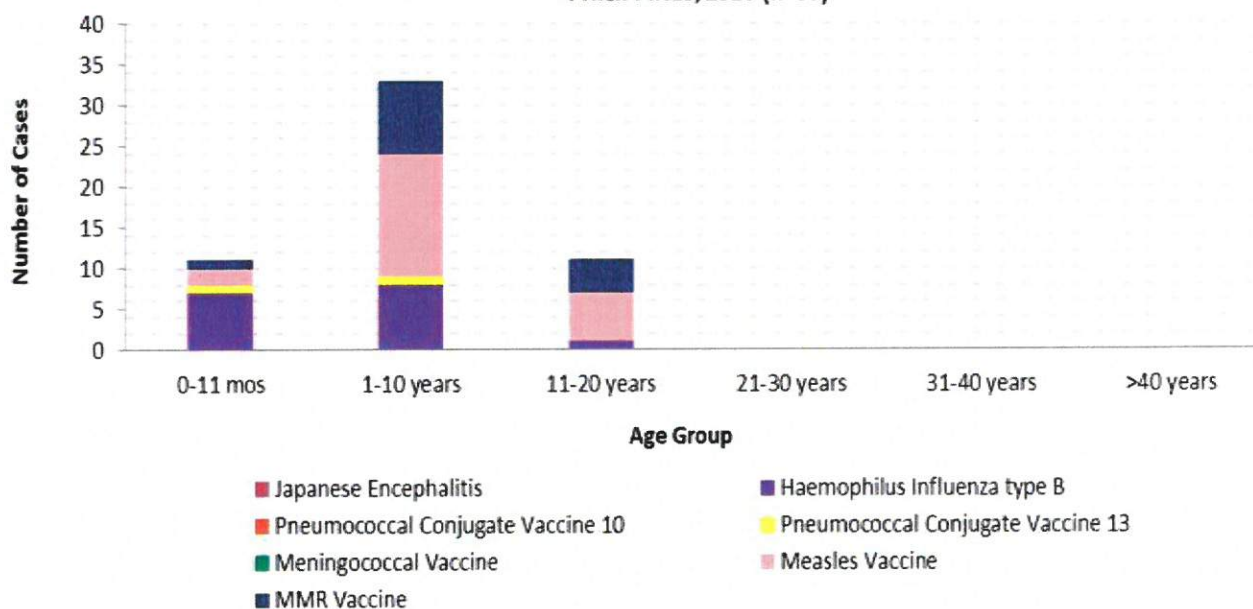
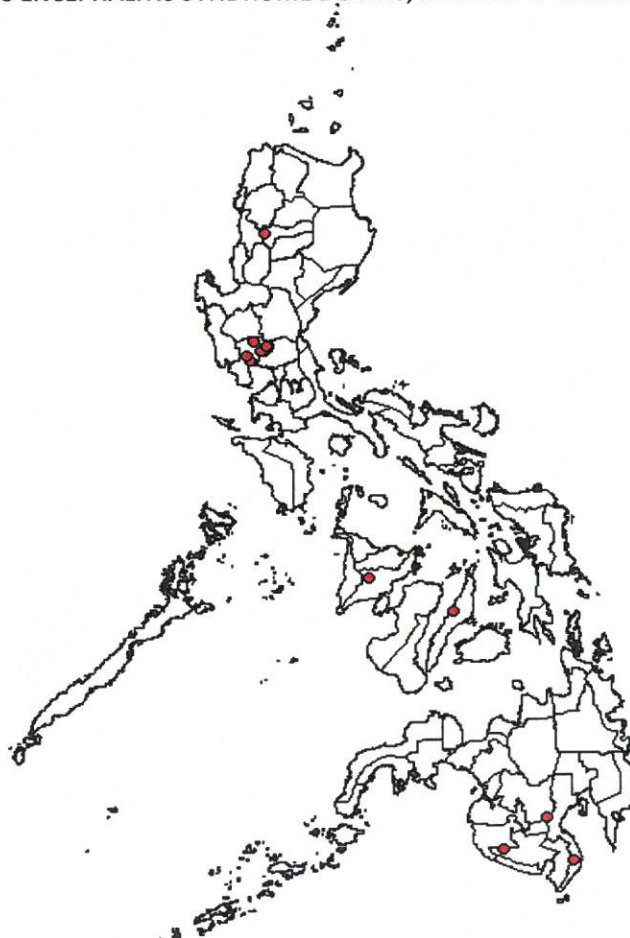


FIGURE 5. SUSPECTED ACUTE MENINGITIS ENCEPHALITIS SYNDROME DEATHS, JANUARY 1- FEBRUARY 27, 2016

REGION	CASES
Region 1	= 0
Region 2	= 0
Region 3	= 5
Region 4A	= 0
Region 4B	= 0
Region 5	= 0
Region 6	= 1
Region 7	= 1
Region 8	= 0
Region 9	= 0
Region 10	= 0
Region 11	= 2
Region 12	= 1
ARMM	= 0
CAR	= 1
CARAGA	= 0
NCR	= 0
<b>TOTAL</b>	<b>= 11</b>

LEGEND  
1 Dot =1 Case





ACUTE MENINGITIS-ENCEPHALITIS SYNDROME  
SURVEILLANCE CASES

Morbidity Week 8– January 1-February 27, 2016

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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, FEBRUARY 27, 2016

AMES Sentinel Site	Number of Suspected AMES Cases	Cerebrospinal Fluid										# Serum 1 specimen collected (Acute)				# Serum 2 specimen collected (Convalescent)				Number of Deaths	CFR (%)
		# CSF collected	Samples received <1 hour	Samples with culture results	Result <sup>a1</sup>			Total	Result <sup>a2</sup>			Total	Result <sup>a3</sup>			Total					
					*P	*N	*Pn		*P	*N	*Pn		*P	*N	*Pn						
Ilocos Training Regional Medical Center	3	3(100%)	3(100%)	3(100%)	0	1(33%)	2(67%)	3	0	1(100%)	0	1	0	0	0	0	0	0.00			
Cagayan Valley Medical Center	23	23(100%)	18(78%)	22(96%)	0	14(61%)	9(39%)	23	0	0	0	0	0	0	0	0	0	0.00			
Jose B. Lingad Memorial Regional Hospital	33	14(42%)	12(86%)	12(86%)	4(29%)	6(43%)	4(29%)	14	4(12%)	20(61%)	9(27%)	33	1(8%)	9(69%)	3(23%)	13	5	15.15			
Bicol Medical Center	14	1(7%)	0	1(100%)	0	0	1(100%)	1	0	0	0	0	0	0	0	0	0	0.00			
Western Visayas Medical Center	6	4(67%)	4(100%)	2(50%)	0	3(75%)	1(25%)	4	0	3(75%)	1(25%)	4	0	0	0	0	1	16.67			
Vicente Sotto Memorial Medical Center	16	16(100%)	14(87%)	16(100%)	0	13(87%)	2(13%)	15 <sup>1</sup>	0	0	0	0	0	0	0	0	1	6.25			
Southern Philippines Medical Center	14	14(100%)	14(100%)	14(100%)	2(14%)	6(43%)	6(43%)	14	1(7%)	7(50%)	5(36%)	13 <sup>2</sup>	1(20%)	3(60%)	0	4 <sup>3</sup>	3	21.43			
Philippine Children's Medical Center	22	21(95%)	17(81%)	0	1(5%)	13(62%)	7(33%)	21	0	9(67%)	3(25%)	12 <sup>2</sup>	0	1(100%)	0	1	0	0.00			
Baguio General Hospital and Medical Center	26	26(100%)	13(50%)	20(77%)	4(16%)	17(68%)	4(16%)	25 <sup>1</sup>	0	7(47%)	8(53%)	15	0	3(100%)	0	3	1	3.85			
Grand Total	157	122(78%)	95(78%)	90(74%)	11(9%)	73(61%)	36(30%)	120 <sup>1</sup>	5(6%)	47(59%)	26(33%)	78 <sup>2</sup>	2(9%)	16(73%)	3(14%)	21 <sup>3</sup>	11	7.01			

Note: All cases with dengue result, samples not tested and with no sample are not included in the classification as positive, negative or pending (n<sup>1</sup>, n<sup>2</sup>, n<sup>3</sup>)

<sup>1</sup>VSMCMC: 1 Not tested, BGHMC: 1 Not tested; <sup>2</sup>SPMC: 1 Dengue case, PCMC: 1 Dengue case; <sup>3</sup>SPMC: 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

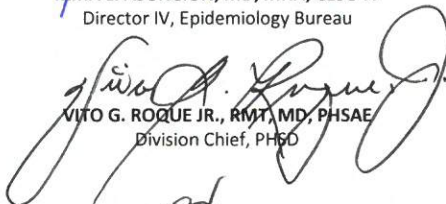
**Region VII-** Vicente Sotto Memorial Medical Center

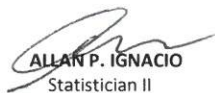
**Region XI-** Southern Philippines Medical Center


**Region NCR-** Philippine Children's Medical Center


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