



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).

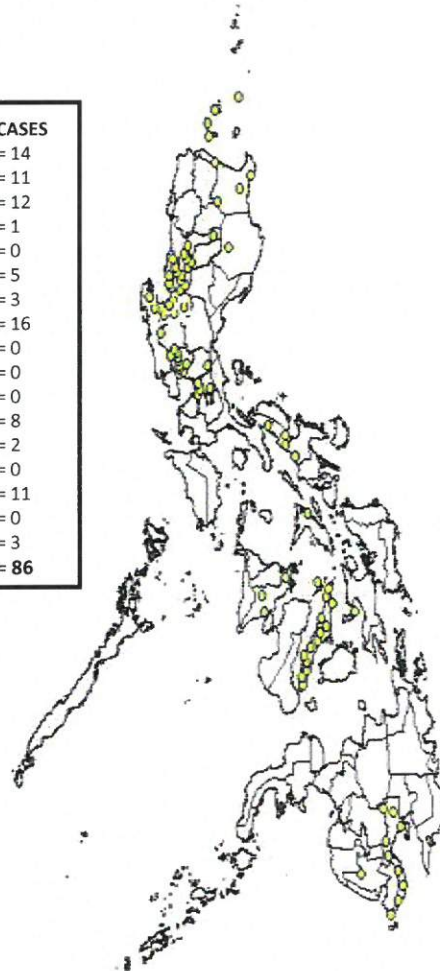
Meanwhile, AES is an illness clinically characterized by fever, change in mental status and/or new onset of seizures (excluding simple febrile seizures in children). This is used as a surrogate syndrome for Japanese Encephalitis (JE) cases in surveillance. In the Philippines, JE has been detected in 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=86)

REGION	CASES
Region 1	= 14
Region 2	= 11
Region 3	= 12
Region 4A	= 1
Region 4B	= 0
Region 5	= 5
Region 6	= 3
Region 7	= 16
Region 8	= 0
Region 9	= 0
Region 10	= 0
Region 11	= 8
Region 12	= 2
ARMM	= 0
CAR	= 11
CARAGA	= 0
NCR	= 3
TOTAL	= 86



LEGEND
1 Dot = 1 Case



Morbidity Week 6– January 1-February 13, 2016

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Trend

A total of 86 AMES suspected cases were reported from selected sentinel sites from January 1 to February 13, 2016 (Figure 1). This is 2% higher compared to the same period last year (84). Of these, 81 (94%) specimens (CSF, Serum 1 & 2) were collected and 5 (6%) without specimen. Of the collected specimens, there was 7 (9%) laboratory confirmed Japanese Encephalitis case, 57 (70%) cases with negative laboratory results, 15 (19%) pending results and 2 (2%) specimens not tested.

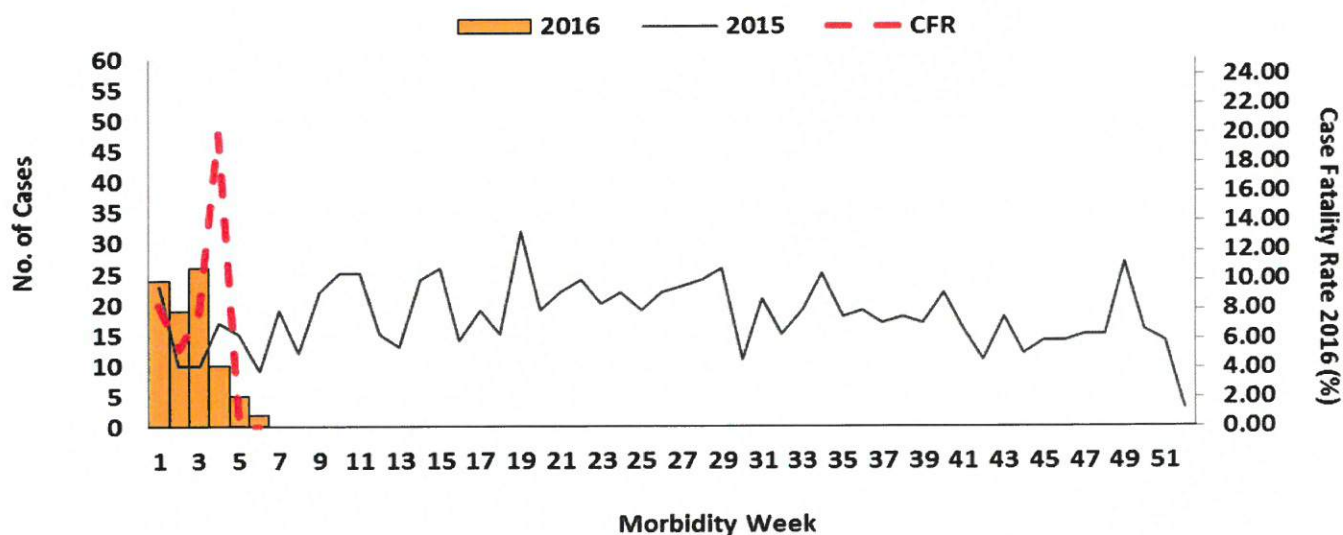
Geographic distribution

The distribution of suspected AMES cases varied considerably among the sentinel sites (Figure 2). Most of the reported cases were from Baguio General Hospital and Medical Center (26%), Vicente Sotto Memorial Medical Center (19%), Jose B. Lingad Memorial Hospital (13%) and Cagayan Valley Medical Center (13%) (Figure 2).

Profile of cases

Most of the suspected AMES cases were among 0 to 11 months old (29%) and 1 to 10 years old (44%) (Figure 3). Sixty-two percent of the suspected AMES cases were male (Figure 3). Among the suspected AMES cases, 44% received vaccinations which are measles vaccine, MMR, PCV 13 and Haemophilus Influenza type b and 56 % did not receive any immunization (Figure 4). Seven among the suspected AMES died (CFR=8.14).

**Figure 1. Suspected AMES Cases by Morbidity Week, Philippines, as of February 13, 2016
2016* vs 2015 (N=86)**

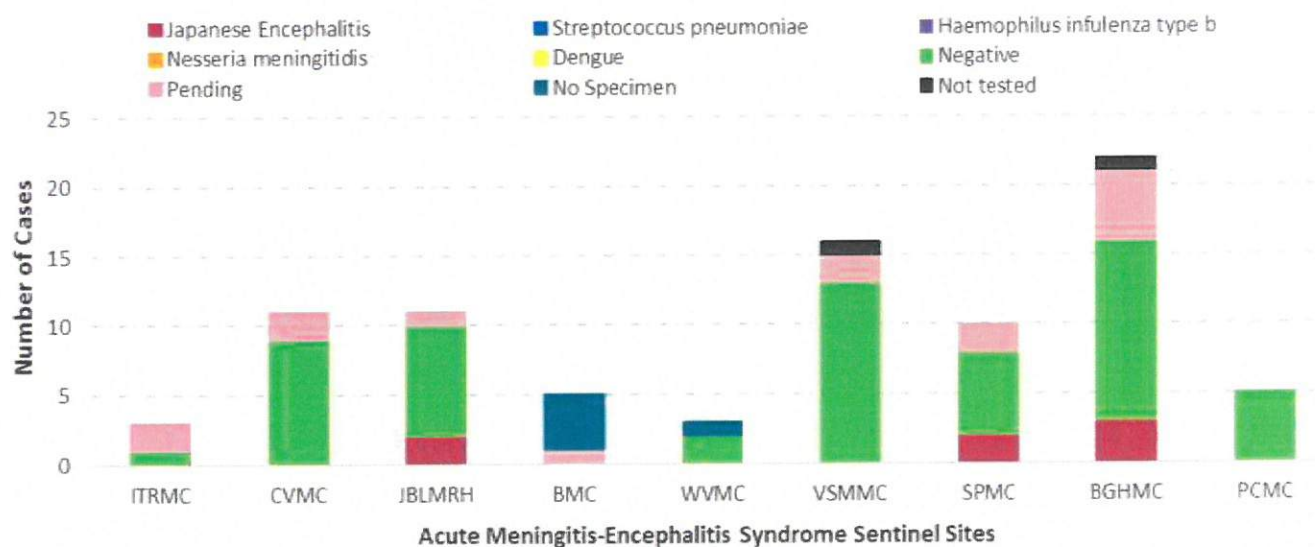




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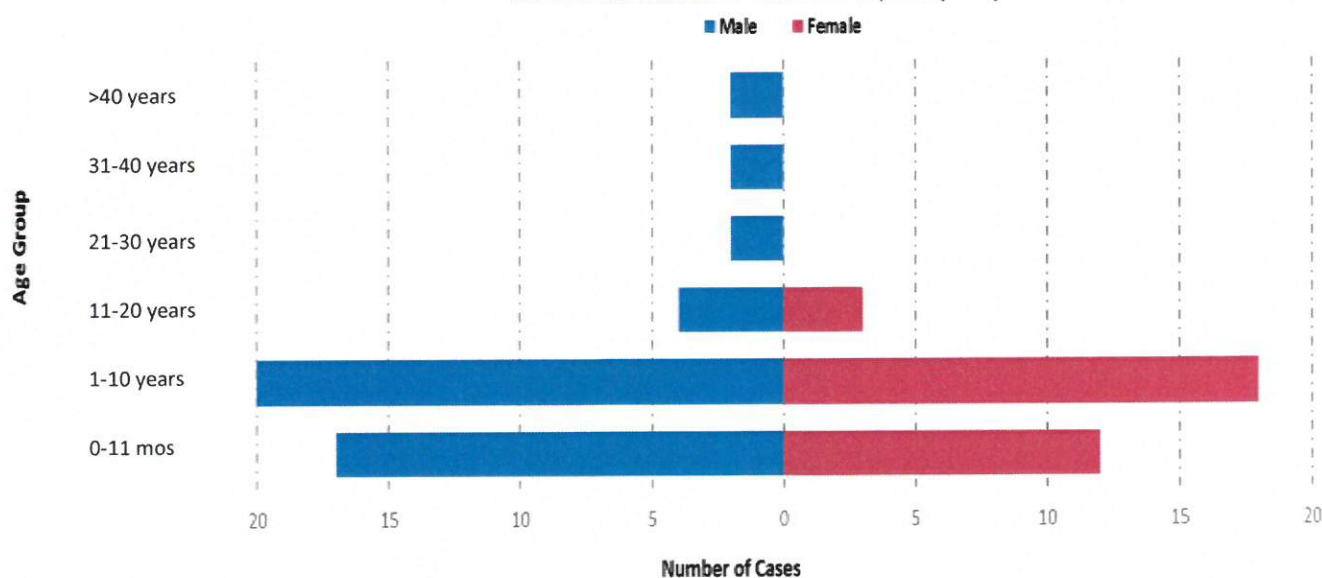
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**FIGURE 2. REPORTED AMES CASES AND LABORATORY RESULTS BY SENTINEL ,
PHILIPPINES, JANUARY 1 – FEBRUARY 13, 2016 (N=86)**



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 13, 2016 (N=86)**





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FIGURE 4. NUMBER OF IMMUNIZED AMONG SUSPECTED AMES CASES BY AGE GROUP
PHILIPPINES, 2016 (n=38)

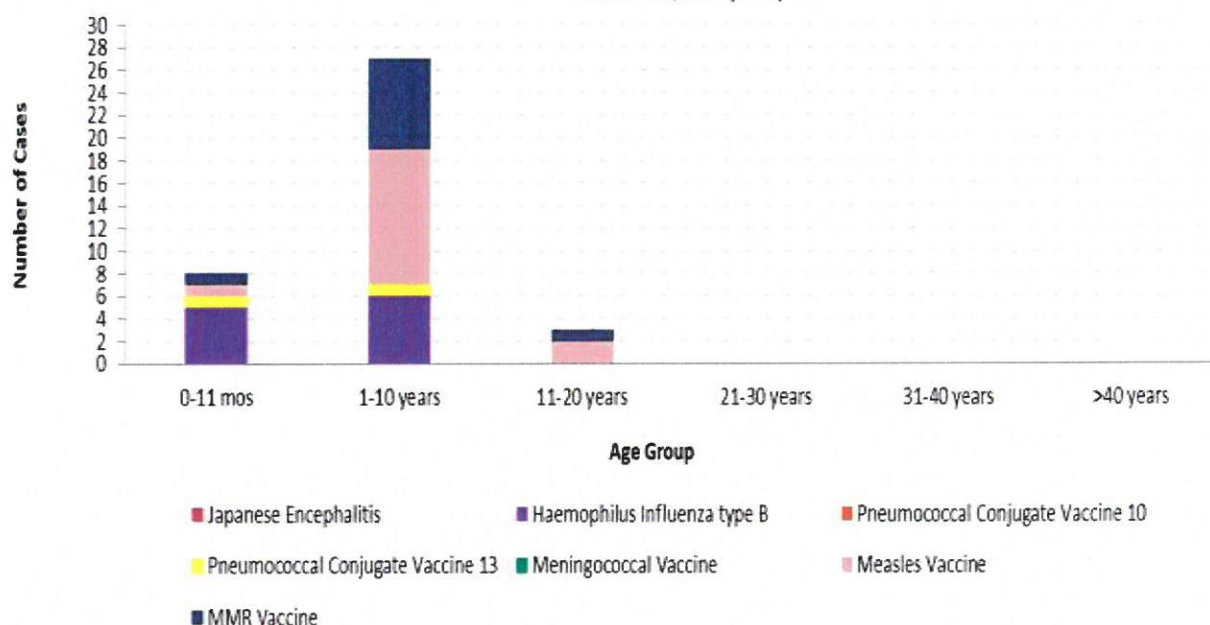
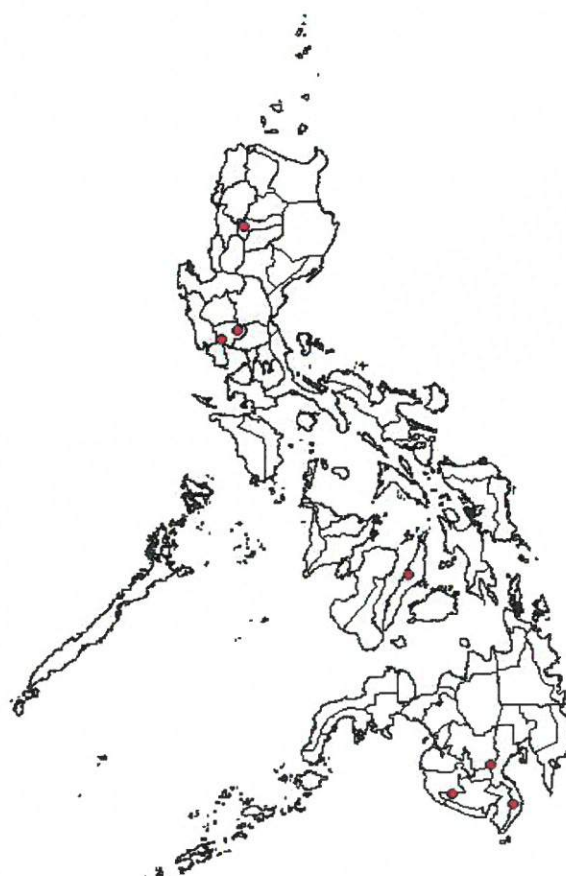


FIGURE 5. SUSPECTED ACUTE MENINGITIS ENCEPHALITIS SYNDROME DEATHS, JANUARY 1- FEBRUARY 13, 2016

REGION	CASES
Region 1	= 0
Region 2	= 0
Region 3	= 2
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	= 2
Region 12	= 1
ARMM	= 0
CAR	= 1
CARAGA	= 0
NCR	= 0
TOTAL	= 7

LEGEND
1 Dot = 1 Case





ACUTE MENINGITIS-ENCEPHALITIS SYNDROME
SURVEILLANCE CASES

Morbidity Week 6– January 1-February 13, 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 13, 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 ¹			Total	Result ²			Total	Result ³			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	0.00				
Cagayan Valley Medical Center	11	11(100%)	10(91%)	10(91%)	0	9(82%)	2(18%)	11	0	0	0	0	0	0	0	0	0	0	0.00				
Jose B. Lingad Memorial Regional Hospital	11	6(55%)	5(83%)	6(100%)	0	4(67%)	2(33%)	6	2(18%)	8(73%)	1(9%)	11	1(17%)	5(83%)	0	6	2	18.18					
Bicol Medical Center	5	1(20%)	0	1(100%)	0	0	1(100%)	1	0	0	0	0	0	0	0	0	0	0.00					
Western Visayas Medical Center	3	2(67%)	2(100%)	0	0	2(100%)	0	2	0	² 100%	0	2	0	0	0	0	0	0.00					
Vicente Sotto Memorial Medical Center	16	16(100%)	14(87%)	16(100%)	0	13(87%)	2(13%)	15 ¹	0	0	0	0	0	0	0	0	1	6.25					
Southern Philippines Medical Center	10	10(100%)	10(100%)	10(100%)	2(20%)	6(60%)	2(20%)	10	1(10%)	7(70%)	1(10%)	9 ²	0	3(60%)	¹ (20%)	4 ³	3	30.00					
Philippine Children's Medical Center	5	5(100%)	3(60%)	0	0	5(100%)	0	5	0	2(67%)	1(33%)	3	0	1(100%)	0	1	0	0.00					
Baguio General Hospital and Medical Center	22	22(100%)	13(59%)	15(68%)	3(13%)	13(59%)	5(23%)	21 ¹	0	6(46%)	7(54%)	13	0	2(100%)	0	2	1	4.54					
Grand Total	86	76(88%)	60(79%)	61(80%)	5(7%)	53(72%)	16(22%)	74	3(7%)	26 (65%)	10 (25%)	39	1(7%)	11(79%)	1(7%)	13	7	8.14					

Note: All cases with dengue result, samples not tested and with no sample are not included in the classification as positive, negative or pending (n¹, n², n³)

¹VSMMC: 1 Not tested; BGHMC: 1 Not tested; 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

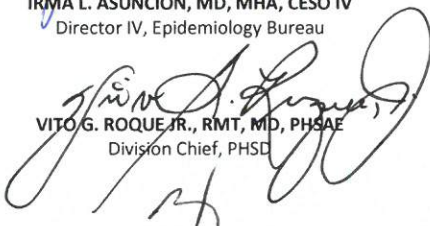
Region VII- Vicente Sotto Memorial Medical Center

Region XI- Southern Philippines Medical Center

Region NCR- Philippine Children's Medical Center

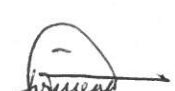
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