



**Background:**

Japanese encephalitis (JE) is a mosquito-borne flavivirus, and belongs to the same genus as dengue, yellow fever and West Nile viruses. JE is the main cause of viral encephalitis in many countries of Asia. In the Philippines, JE was found to be endemic with an extensive geographic range. JE virus was the causative agent in 7% to 18% of cases of clinical meningitis-encephalitis, and 16% to 40% of clinical encephalitis cases. In addition, JE predominantly affects children under 15 years of age and 6% to 7% of cases resulted in deaths.<sup>1</sup> In 2015, Acute Meningitis Encephalitis Surveillance (AMES) was initiated in nine sentinel hospitals.

**PIDSR Case Definition:**

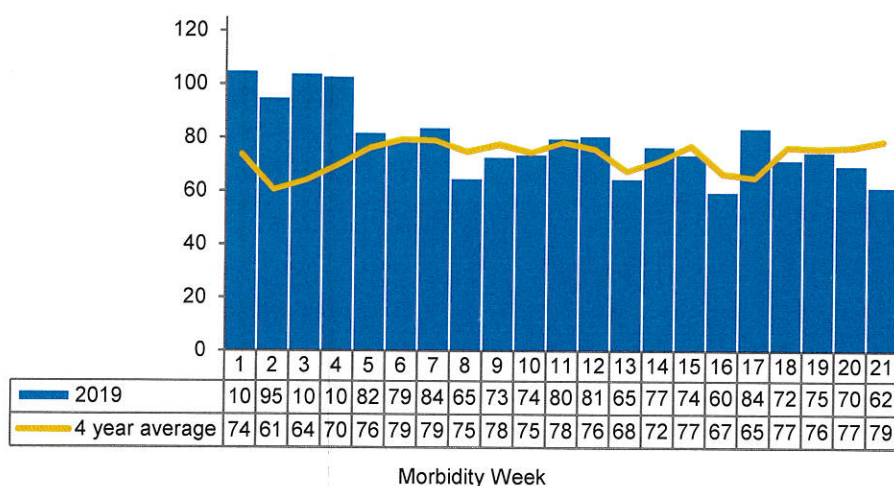
Japanese encephalitis cases are captured under AMES, which comes from the combined surveillance data of AMES from the sentinel sites, and the surveillance data of Acute Encephalitis Syndrome (AES) and Bacterial Meningitis (BM). The case definition for AMES shall be the combined case definition of AES and BM.

Case Classification	Criteria
<b>Suspected AMES Case</b>	a person of any age, with acute onset of fever <b>and at least one</b> of the ff.: <ul style="list-style-type: none"><li>- Change in mental status (including altered consciousness, confusion, or inability to talk)</li><li>- New onset of seizures (excluding simple febrile seizures)</li><li>- Neck stiffness or other meningeal signs (Kernig's sign, Brudzink's sign, bulging fontanel, etc.)</li><li>- Case diagnosed by the physician as either encephalitis or meningitis</li></ul>
<b>Probable JE</b>	a suspected case that occurs in close geographical and temporal relationship to a lab-confirmed case of JE, in the context of an outbreak
<b>Lab-confirmed JE</b>	a suspected case that has been lab-confirmed as JE, by detecting presence of JE virus- specific IgM antibody in a single sample of CSF or serum, as detected by an IgM capture of ELISA
<b>AES – other agent</b>	a suspected case in which diagnostic testing is performed and an etiologic agent other than JE virus is identified
<b>AES – unknown</b>	a suspected case in which testing was performed but no etiologic agent was identified or in which the test results were indeterminate

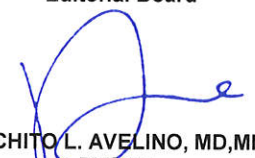
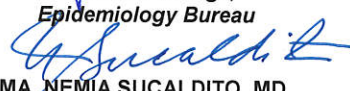

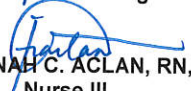

**Trends in the Philippines**

A total of **1,664** AMES cases were reported from January 1 to May 25, 2019 or Morbidity Weeks 1 to 21. The distribution of AMES cases for 2019 compared to the 4 year average of cases from 2015 to 2018 is shown below (Figure 1).

**Figure 1. Reported AMES cases by Morbidity Week (N=1,664)**  
**Philippines, January 1 – May 25, 2019**



\*AMES surveillance only started in 2015

<b>Editorial Board</b>
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<b>Prepared by:</b>  <b>GERARDO NIÑO B. ALAPIDE, RN</b> Disease Surveillance Officer

<sup>1</sup> Lopez, A.L. et al, 2013





## AMES CASES

### I. Geographic Distribution of Cases

Most of the cases came from Region III (245 or 15%), Region II (183 or 11%) and NCR (178 or 11%). Likewise, Regions IV-A, MIMAROPA, VII, IX, XI, XII and ARMM showed an increased number of cases compared with the same time period in 2018. There were 99 reported deaths with a Case-Fatality Ratio (CFR) of 6% (Table 1).

**Table 1. Reported AMES Cases and Deaths by Region (N=1,664)**  
Philippines, January 1-May 25, 2019 vs 2018

Region	2019		2018		% Change
	Cases	Deaths	Cases	Deaths	
<b>PHILIPPINES</b>	<b>1,664</b>	<b>99</b>	<b>1,787</b>	<b>78</b>	<b>↓7</b>
I	168	12	223	8	↓25
II	183	5	94	4	↑95
III	245	3	315	12	↓22
IV-A	133	5	124	6	↑7
MIMAROPA	25	1	18	1	↑39
V	67	3	118	6	↓43
VI	146	3	164	7	↓11
VII	124	15	113	7	↑10
VIII	5	0	19	4	↓74
IX	31	2	29	4	↑7
X	41	1	105	2	↓61
XI	97	3	89	1	↑9
XII	52	4	39	1	↑33
ARMM	87	14	51	2	↑71
CAR	44	1	54	2	↓19
CARAGA	38	1	40	1	↓5
NCR	178	26	192	10	↓7

\*\*Regions with red font indicate increase in percent change

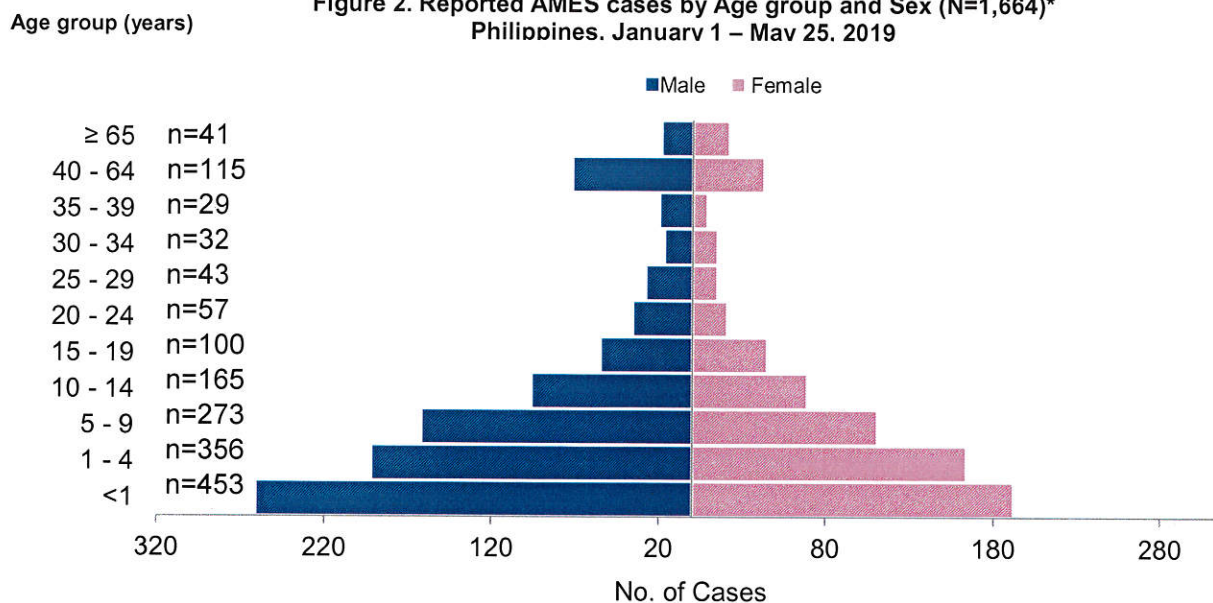
### II. Profile of Cases

#### A. AMES Cases

##### 1. Age group and Sex

Among the 1,664 suspect AMES cases, majority (958 or 58%) were male. Age range from less than 1 month to 97 years (median: 5 years). Majority (6809 or 49%) of those affected were children less than 5 years of age (Figure 2).

**Figure 2. Reported AMES cases by Age group and Sex (N=1,664)\***  
Philippines, January 1 – May 25, 2019

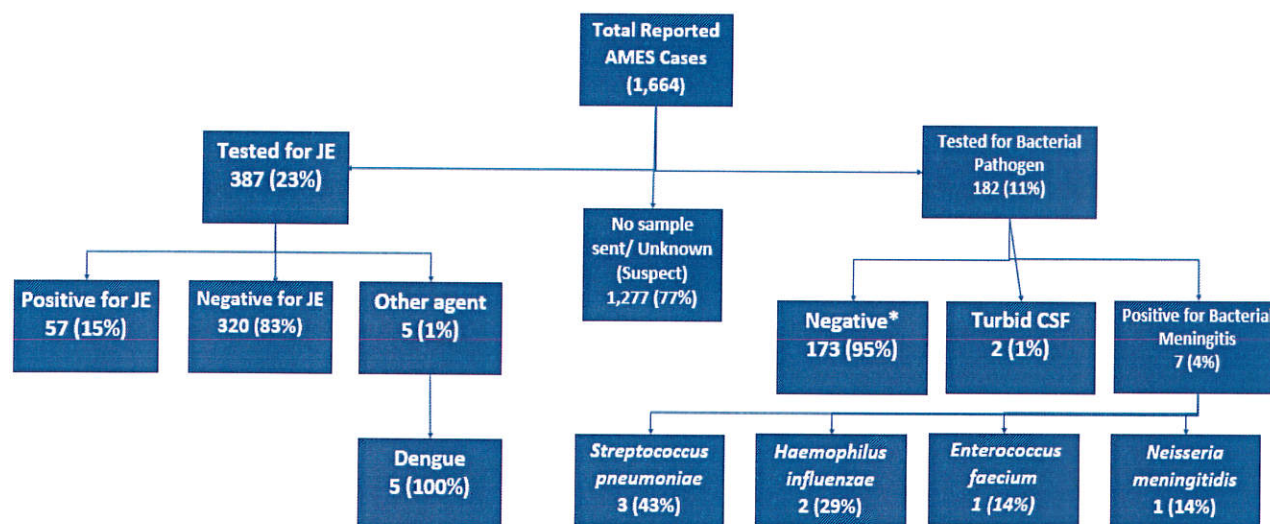




## 2. Laboratory Status

Out of the 1,664 AMES cases, 387 (23%) had specimens sent to the Research Institute for Tropical Medicine (RITM) to test for Japanese encephalitis (JE) IgM. Among those tested, 57 (15%) were laboratory confirmed JE, 320 (83%) were negative for JE.

**Figure 3. Reported AMES cases by Laboratory Status (N=1,664)**  
Philippines, January 1 – May 25, 2019



\*Negative: for *N. meningitidis*, *Haemophilus influenzae* and *Streptococcus pneumoniae*

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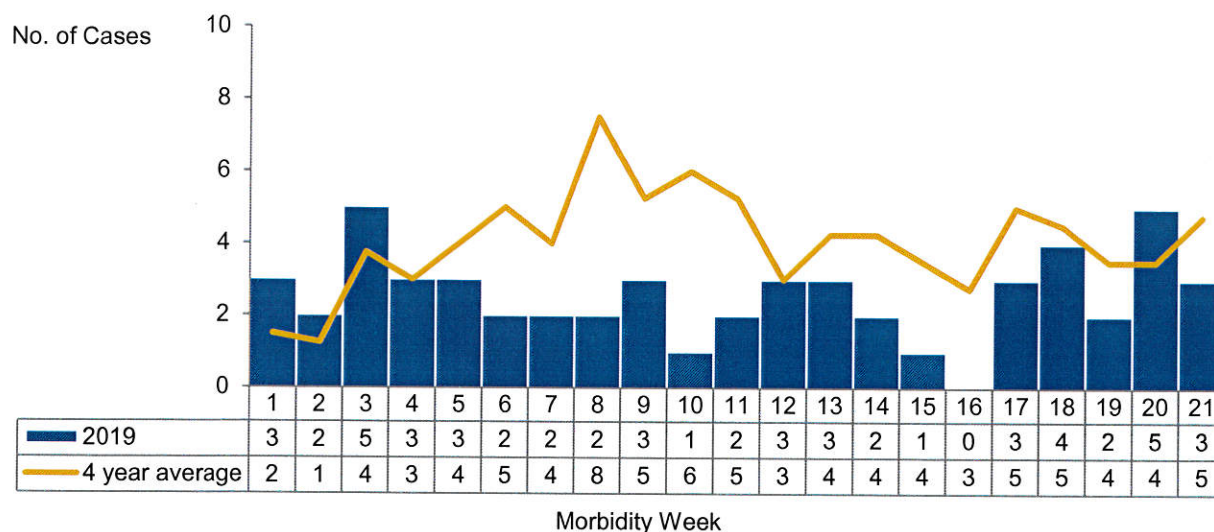
## CONFIRMED JAPANESE ENCEPHALITIS CASES

### A. Confirmed Japanese Encephalitis Cases

#### 1. Distribution of cases by Morbidity Week

Out of the 1,664 AMES cases, a total of 54 laboratory-confirmed JE were reported from January 1 to May 25, 2019 or Morbidity Week 1 – 21. The distribution of AMES cases for 2019 compared to the 4-year average of cases from 2015 to 2018 is shown below (Figure 4).

**Figure 4. Distribution of Confirmed JE Cases by Morbidity Week (n=54)**  
Philippines, January 1 – May 25, 2019







## 2. Geographic Distribution

Most of the lab-confirmed JE cases were reported from **Region II (15 or 28%)**. Likewise, Region IV-A and Region XII showed an increased number of case compared with the same time period in 2018 (N=98). (Table 2).

**Table 2. Confirmed Japanese Encephalitis Cases and Deaths by Region (n=54)**  
Philippines, January 1 – May 25, 2019 vs 2018 same time period

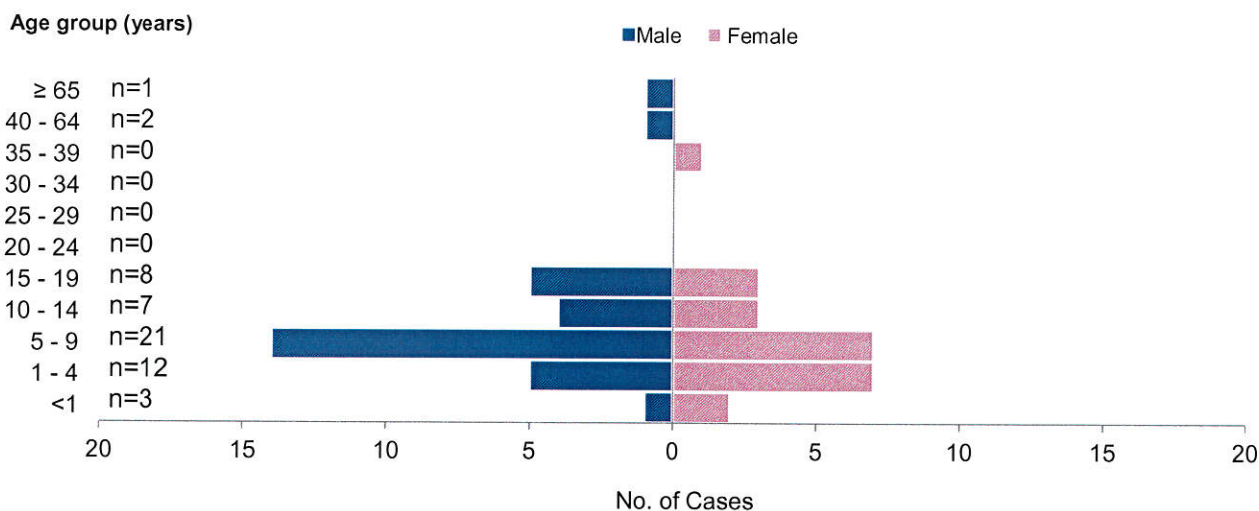
Region	2019		2018		% Change
	Cases	Deaths	Cases	Deaths	
<b>PHILIPPINES</b>	<b>54</b>	<b>3</b>	<b>98</b>	<b>4</b>	<b>↓45</b>
I	13	1	10	0	↓30
II	15	1	13	1	↓15
III	10	0	43	2	↓77
IV-A	2	0	1	0	↑
MIMAROPA	2	0	2	0	0
V	2	0	5	0	↓60
VI	0	0	8	0	↓100
VII	1	0	2	0	↓50
VIII	0	0	0	0	-
IX	0	0	1	1	↓100
X	0	0	0	0	-
XI	2	1	2	0	0
XII	2	0	0	0	↑
ARMM	0	0	1	0	↓100
CAR	4	0	9	0	↓56
CARAGA	1	0	1	0	0
NCR	0	0	0	0	-

\*\*Regions with red font indicate increase in percent change

## 3. Age group and Sex

Among the **54** confirmed Japanese Encephalitis cases, majority (**31 or 57%**) were male. Age ranges from **<1 year old to 90 years old** (median: 7 years) (Figure 5).

**Figure 5. Confirmed Japanese Encephalitis Cases by Age group and Sex (n=54)\***  
Philippines, January 1 – May 25, 2019



## 4. Profile of Reported JE Death:

- Three (3) deaths (CFR: 6%) were reported among the Confirmed JE cases
- Age range: <1 – 65 years old (median: 4 years)
- Sex distribution: Male: 2 (67%); Female: 1 (33%)



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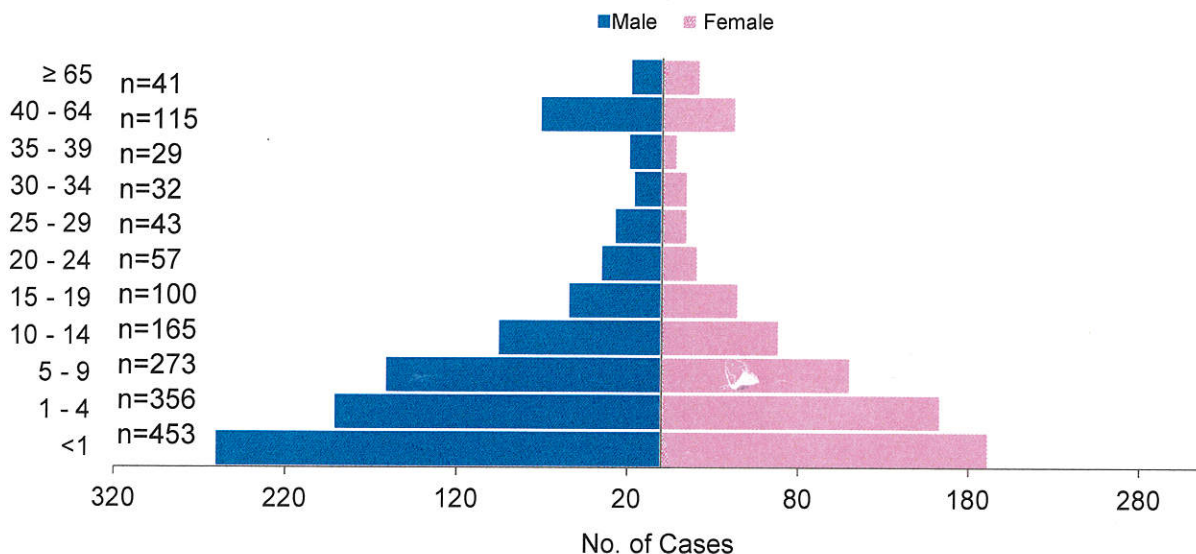
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*A region in red.*

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Age group (years)



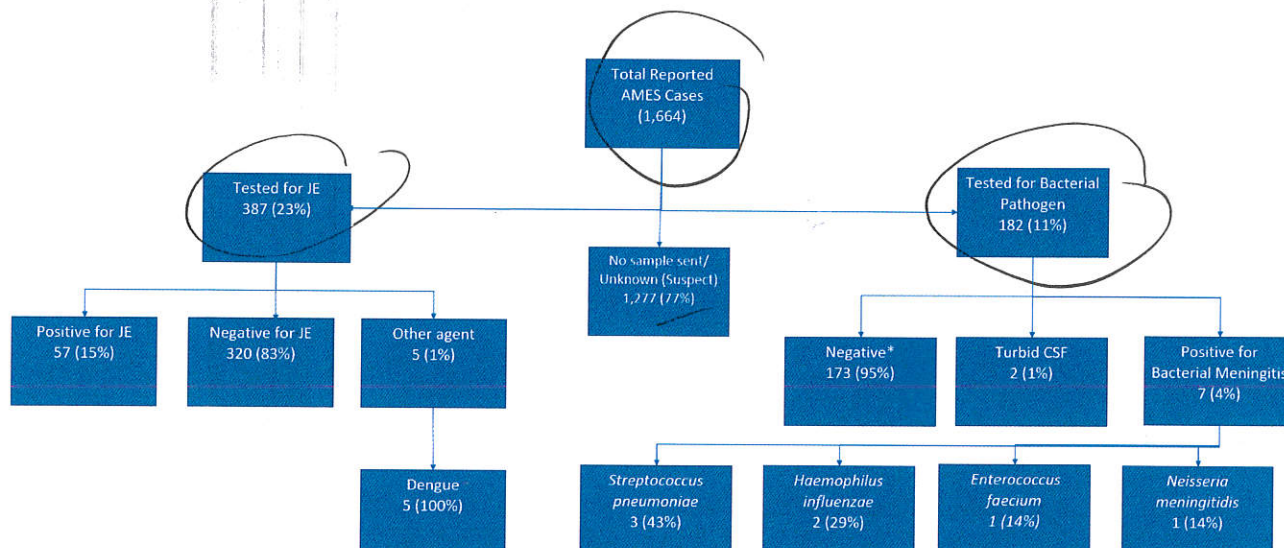




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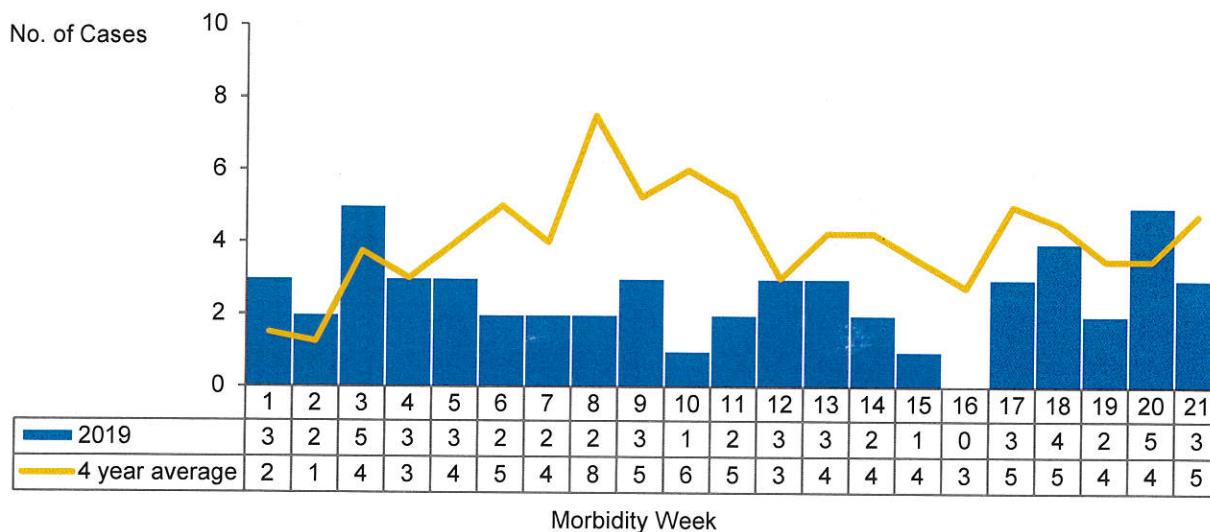
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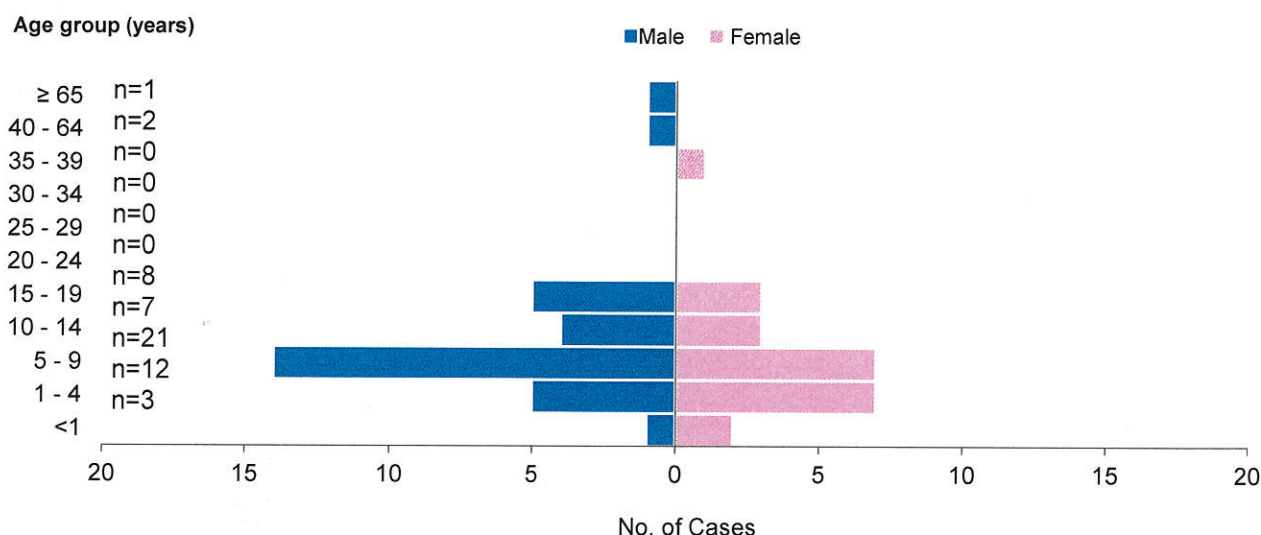
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