



### Leptospirosis






Leptospirosis is a group of zoonotic bacterial diseases with variable manifestations. Disease transmission may be through: contact of skin, especially if abraded, or of mucous membranes with moist soil, vegetation contaminated with urine with infected animals or contaminated water as swimming, wading in flood waters, accidental immersion or occupational abrasion; direct contact with urine or tissues of infected animals.

**Table 1. Leptospirosis Cases in the Philippines, 2019\* vs 2018**

Region	2019		2018		Percent Change in Cases
	Cases	Deaths	Cases	Deaths	
Philippines	916	106	2,272	222	↓ -60

### PIDSR Case Definition for Leptospirosis

<b>Suspected Case</b>	<p>A person who developed acute febrile illness with headache, myalgia and prostration associated with any of the following possibly after exposure to infected animals or an environment contaminated with animal urine</p> <ul style="list-style-type: none"><li>• Conjunctival suffocation</li><li>• Meningeal irritation</li><li>• Anuria or Oliguria and/ or proteinuria</li><li>• Jaundice</li><li>• Hemorrhages (from intestines or lungs)</li><li>• Cardiac arrhythmia or failure</li><li>• Skin rash</li></ul>
<b>Probable Case</b>	<p>A suspected case in an ongoing epidemic or an environment contaminated with animal urine (e.g. wading in water floods, rice fields, drainage)</p>
<b>Confirmed Case</b>	<p>A suspected case that is laboratory confirmed.</p>

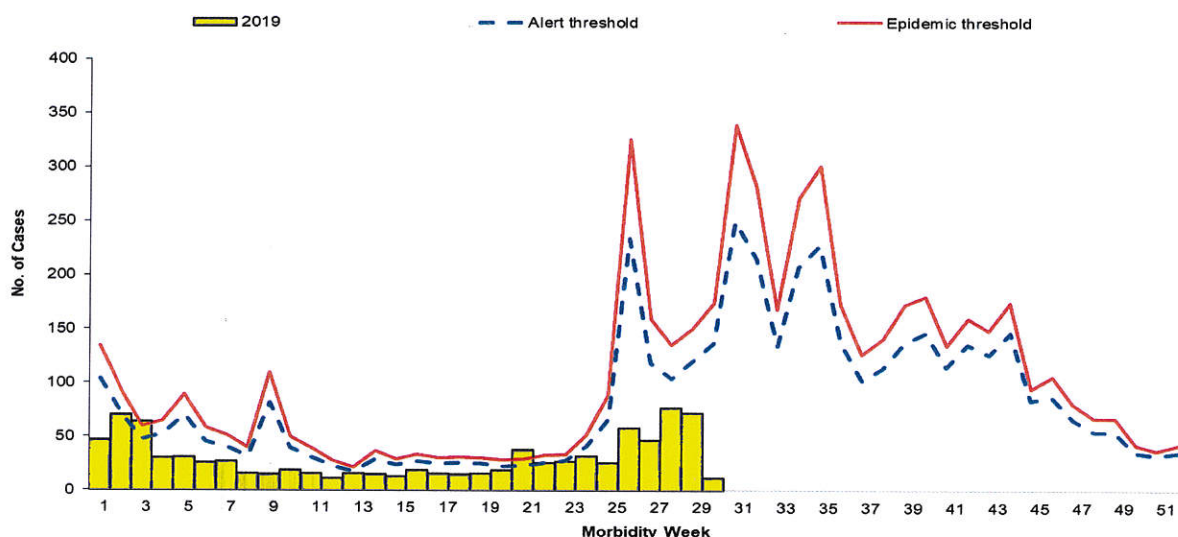
<b>EDITORIAL BOARD</b>
 <b>FERCHITO L. AVELINO, MD, MPH, PHSAE</b> Officer-In-Charge, Epidemiology Bureau
 <b>MA. NEMIA L. SUCALDITO, MD, PHSAE</b> Medial Officer V
 <b>VIKKI CARR DELOS REYES, MD, PHSAE</b> Medical Specialist III
 <b>HERDIE L. HIZON</b> Supervising Health Program Officer EB Data Integrity Manager
<b>JEZZA JONAH C. ACLAN, RN, MPH</b> Nurse III
 <b>EUNICE P. GUZMAN, RN</b> Nurse II



### I. Trend in the Philippines

A total of **916** leptospirosis cases were reported nationwide from January 1 to July 27, 2019 [Figure 1]. This is **60%** lower compared to the same time period last year (**2,272**) [Table 2].

**Figure 1. Reported Leptospirosis Cases by Morbidity Week (N=916)  
Philippines, January 1 to July 27, 2019 Alert and Epidemic Threshold**



### II. Geographic Distribution of Cases

Most of the cases were from the following regions: **NCR** (307 or 34%), **REGION VI** (112 or 12%), **REGION V** (92 or 10%), **REGION II** and **REGION III** (75 or 8%). All regions showed a decrease in the number of reported cases this year except for Region V with 37% increase of cases (Table 2).

**Table 2. Reported Leptospirosis Cases by Region,  
Philippines, July 2019\* (N=916) vs. July 2018\*\***

Region	2019		2018		Percent Change in Cases
	Cases	Deaths	Cases	Deaths	
<b>Philippines</b>	<b>916</b>	<b>106</b>	<b>2,272</b>	<b>222</b>	<b>↓ 60</b>
I	37	8	107	16	↓ 65
II	75	8	81	5	↓ 7
III	75	7	155	8	↓ 52
IV-A	71	11	141	14	↓ 50
MIMAROPA	8	2	20	1	↓ 60
V	92	5	67	3	↑ 37
VI	112	11	284	36	↓ 61
VII	19	5	63	8	↓ 70
VIII	15	1	70	7	↓ 79
IX	19	4	89	6	↓ 79
X	14	1	36	5	↓ 61
XI	37	4	100	8	↓ 63
XII	5	0	8	2	↓ 38
ARMM	3	1	7	1	↓ 57
CAR	17	4	31	2	↓ 45
Caraga	10	1	184	5	↓ 95
NCR	307	33	829	95	↓ 63

\*From period of January 1 to July 27, 2019

\*\*From period of January 1 to July 27, 2018

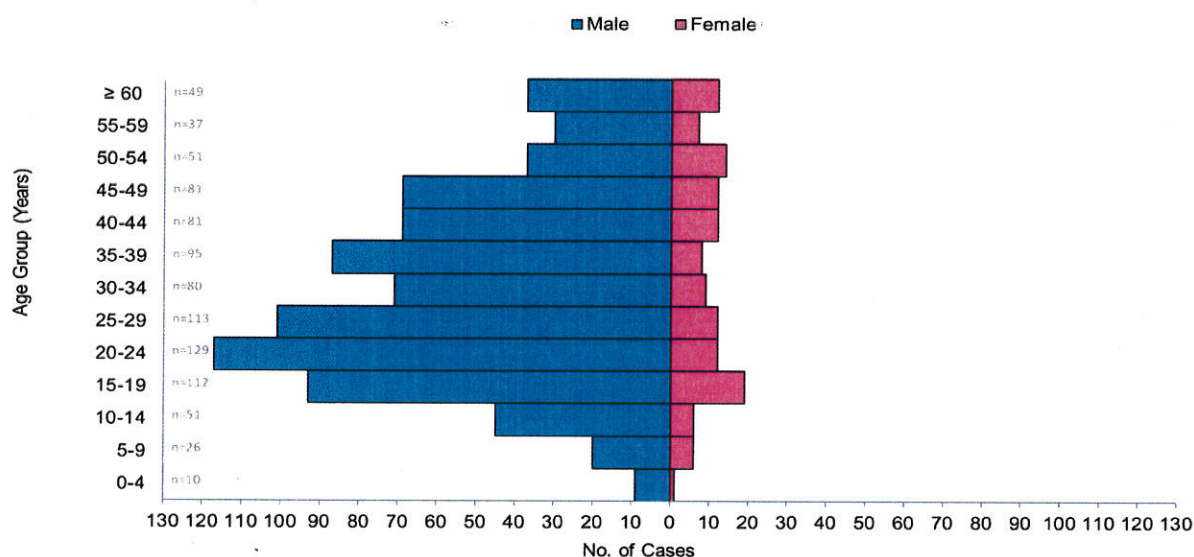




### III. Profile of Cases

Age of cases ranged from less than 1 year to 88 years (median = 31 years) [Figure 2]. Majority (786 or 86%) of cases were male. Most (129 or 14%) of the cases belonged to the age group of 20-24 years old. There were 106 deaths (CFR = 11.57%).

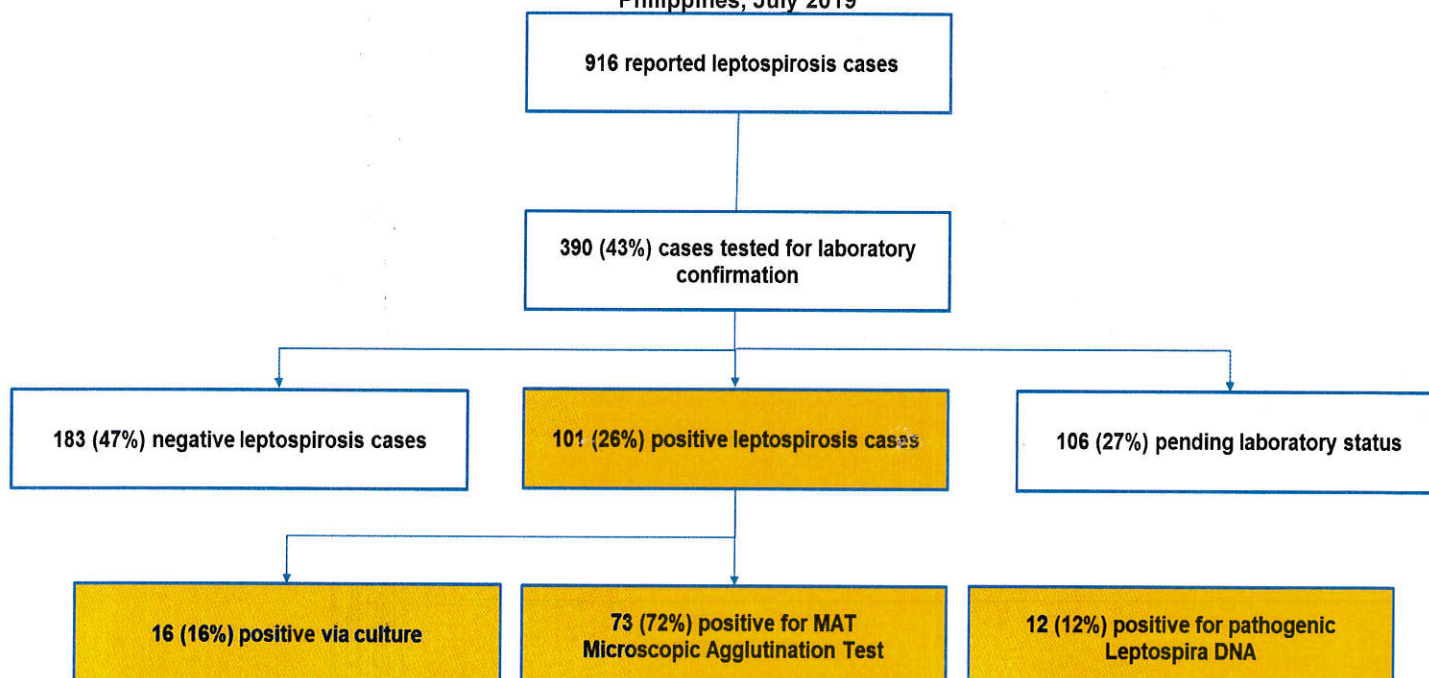
**Figure 2. Reported Leptospirosis Cases by Age Group and Sex (N=916)**  
Philippines, July 2019\*



### IV. Laboratory Status of Leptospirosis Cases

Out of the 916 reported leptospirosis cases, 390 cases (43%) were tested for laboratory confirmation. Of these, 101 cases (26%) yielded positive results [Figure 3].

**Figure 3. Laboratory Status of Reported Leptospirosis Cases**  
Philippines, July 2019\*



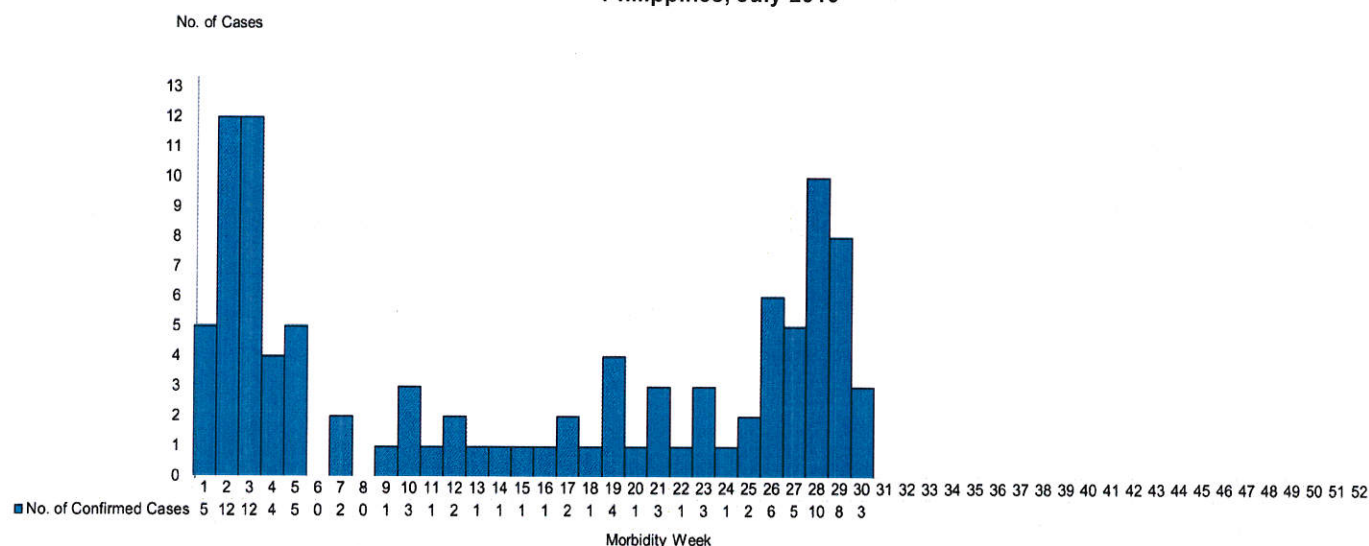
\*From period of January 1 to July 27, 2019



**V. Profile of Confirmed Leptospirosis Cases**

A total of **101** confirmed leptospirosis cases were reported nationwide from January 1 to July 27, 2019. Most of the cases (12 or 12%) were reported on Morbidity Week 2 and Morbidity Week 3 [Figure 4].

**Figure 4. Confirmed Leptospirosis by Morbidity Week (n=101)  
 Philippines, July 2019\***



**VI. Geographic Distribution of Confirmed Leptospirosis Cases**

Most of the confirmed leptospirosis cases were from **NCR** (52 or 51%) followed by **REGION V** (15 or 15%). A total of six (6) deaths were noted: two were from NCR (CFR 4%), one from Region II (CFR 14%), one from Region IV-A (CFR 17%), one from Region VI (CFR 10%) and one from ARMM (CFR 100%).

**Table 3. Confirmed Leptospirosis Cases by Region (n=101)  
 Philippines, July 2019**

Region	Cases	Deaths	CFR%
<b>PHILIPPINES</b>	<b>101</b>	<b>6</b>	<b>5.94</b>
I	5	0	0.00
II	7	1	14.29
IV-A	6	1	16.67
V	15	0	0.00
VI	10	1	10.00
VIII	1	0	0.00
IX	2	0	0.00
X	1	0	0.00
XI	1	0	0.00
ARMM	1	1	100.00
NCR	52	2	3.85

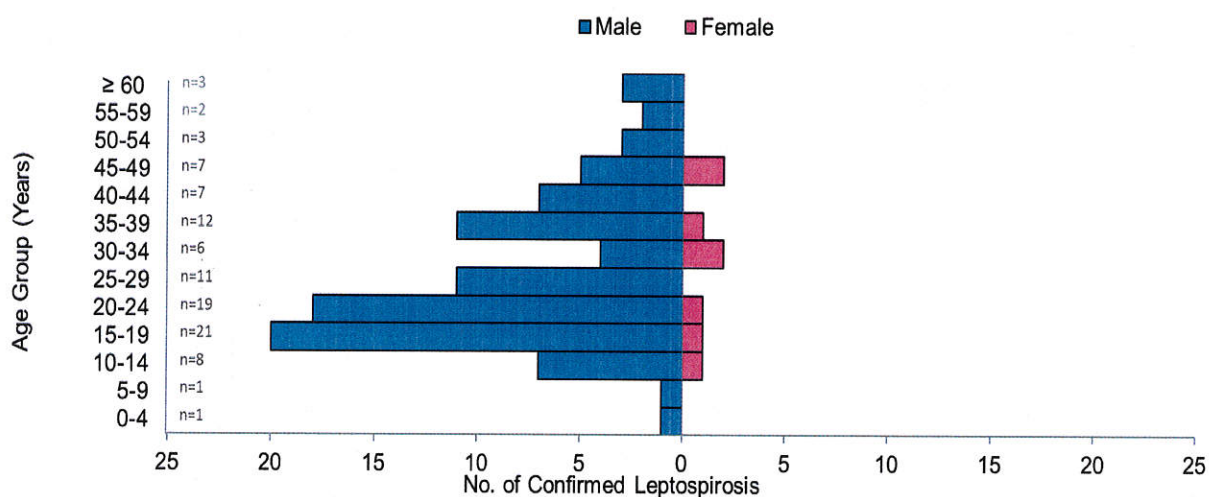
\*From period of January 1 to July 27, 2019



**VII. Sex and Age Group of Confirmed Leptospirosis Cases**

Age of confirmed leptospirosis cases ranged from 2 years to 70 years (median = 25 years). Majority (93 or 92% were male. Most (21 or 21%) of the cases belonged to the age group of 15-19 years old [Figure 5].

**Figure 5. Confirmed Leptospirosis Cases by Age Group and Sex (n=101)  
Philippines, July 2019\***



\*From period of January 1 to July 27, 2019





Figures 6-22. Leptospirosis Alert and Epidemic Thresholds per Region as of July, 2019

Fig. 6 Reported Leptospirosis Cases by Morbidity Week  
Region I, as of January 1-July 27, 2019 (n=37)

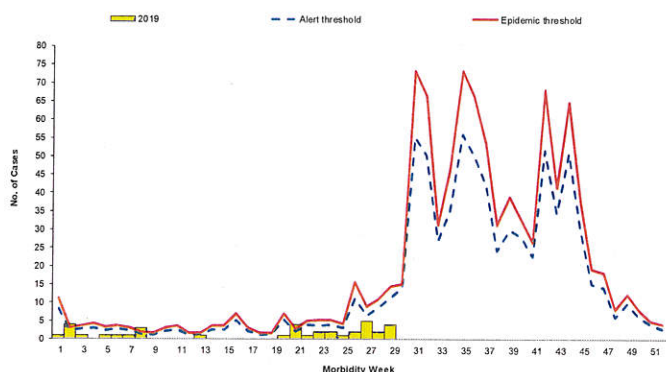


Fig. 7 Reported Leptospirosis Cases by Morbidity Week  
Region II, as of January 1-July 27, 2019 (n=75)

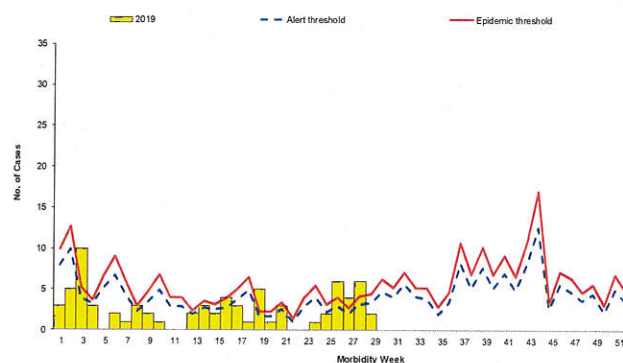


Fig. 8 Reported Leptospirosis Cases by Morbidity Week  
Region III, as of January 1-July 27, 2019 (n=75)

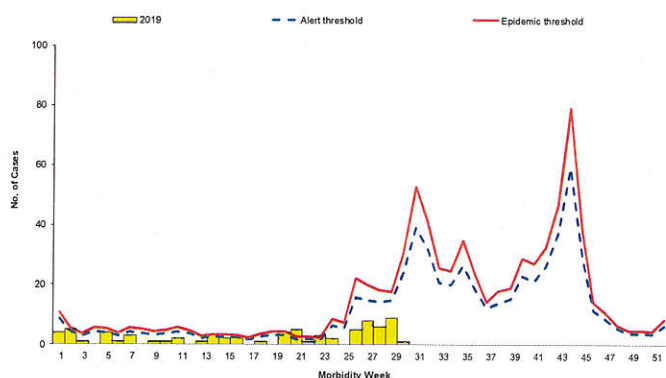


Fig. 9 Reported Leptospirosis Cases by Morbidity Week  
Region IV-A, as of January 1-July 27, 2019 (n=71)

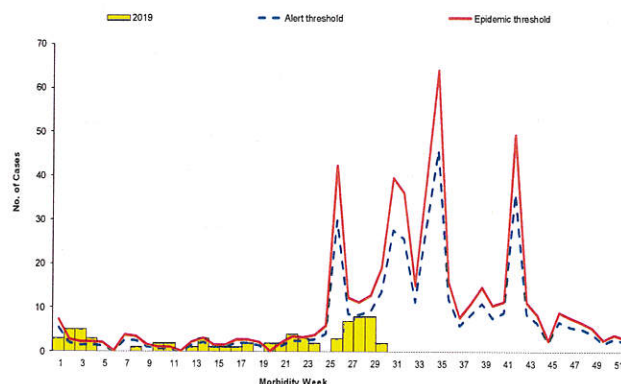


Fig. 10 Reported Leptospirosis Cases by Morbidity Week  
Region MiMaRoPa, as of January 1-July 27, 2019 (n=8)

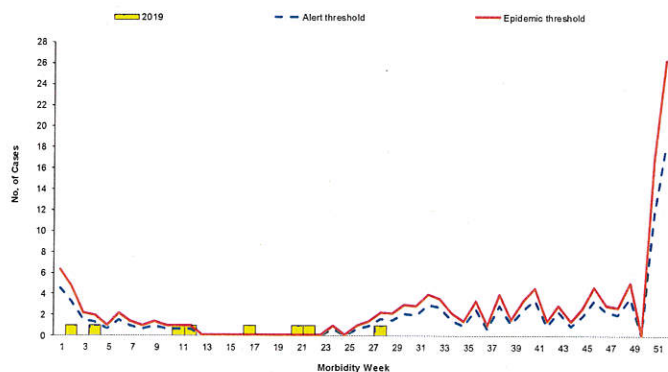
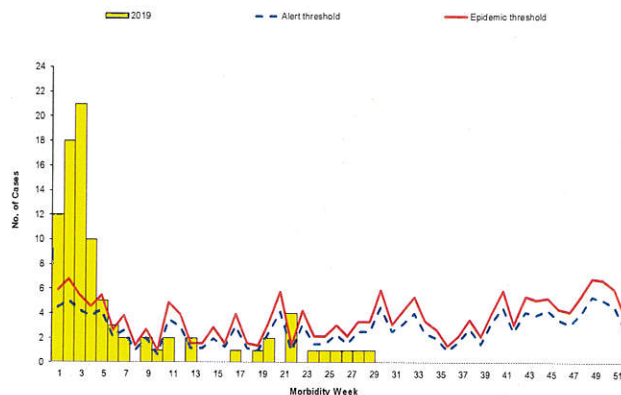


Fig. 11 Reported Leptospirosis Cases by Morbidity Week  
Region V, as of January 1-July 27, 2019 (n=92)





Figures 6-22. Leptospirosis Alert and Epidemic Thresholds per Region as of July 2019

Fig. 12 Reported Leptospirosis Cases by Morbidity Week  
Region VI, as of January 1-July 27, 2019 (n=112)

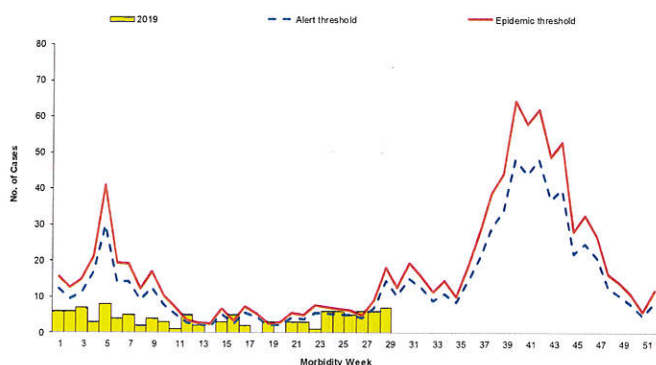


Fig. 13 Reported Leptospirosis Cases by Morbidity Week  
Region VII, as of January 1-July 27, 2019 (n=19)

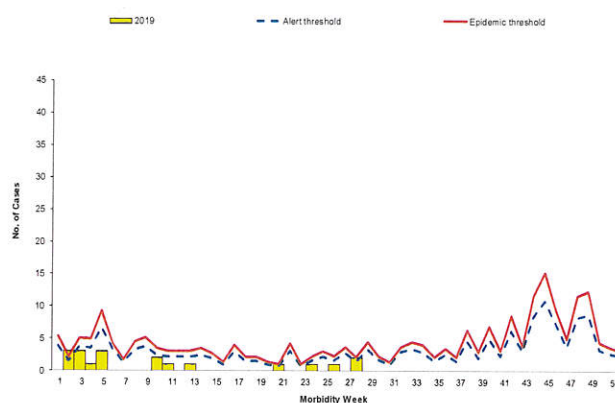


Fig. 14 Reported Leptospirosis Cases by Morbidity Week  
Region VIII, as of January 1-July 27, 2019 (n=15)

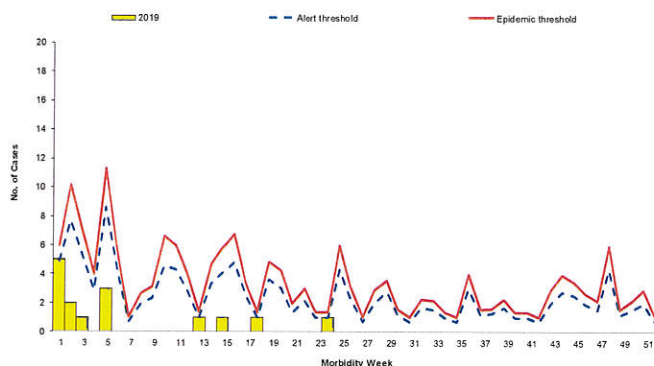


Fig. 15 Reported Leptospirosis Cases by Morbidity Week  
Region IX, as of January 1-July 27, 2019 (n=19)

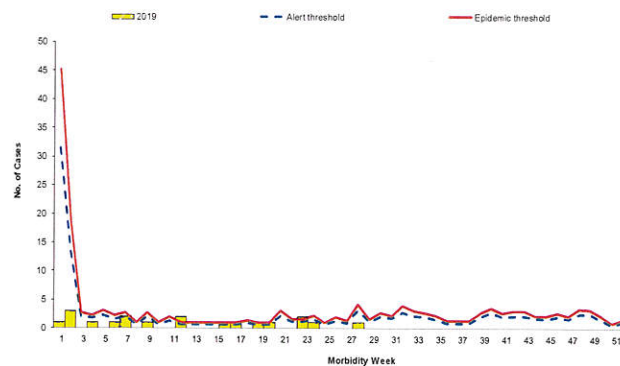


Fig. 16 Reported Leptospirosis Cases by Morbidity Week  
Region X, as of January 1-July 27, 2019 (n=14)

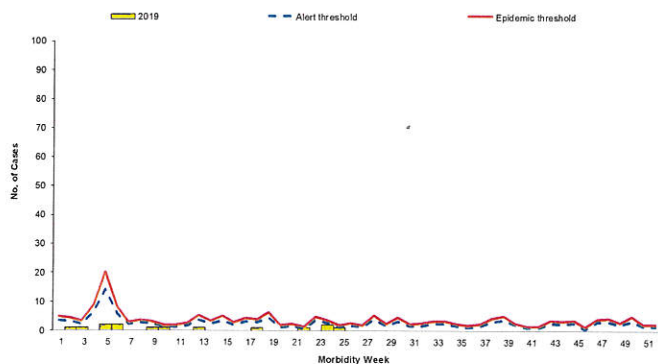
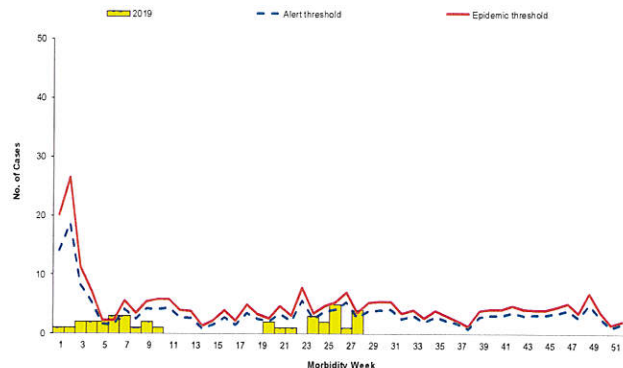


Fig. 17 Reported Leptospirosis Cases by Morbidity Week  
Region XI, as of January 1-July 27, 2019 (n=37)





Figures 6-22. Leptospirosis Alert and Epidemic Thresholds per Region as of July, 2019

Fig. 18 Reported Leptospirosis Cases by Morbidity Week  
Region XII, as of January 1-July 27, 2019 (n=5)

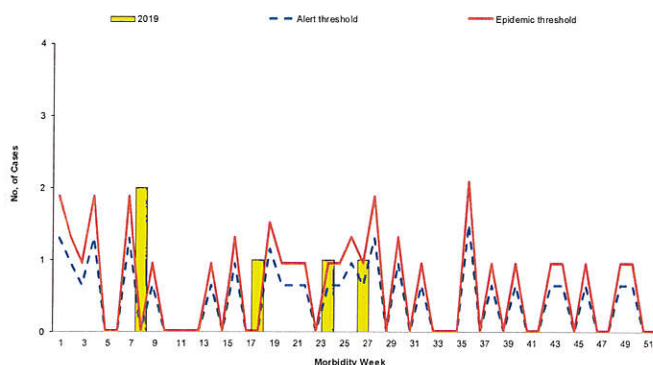


Fig. 19 Reported Leptospirosis Cases by Morbidity Week  
Region ARMM, as of January 1-July 27, 2019 (n=3)

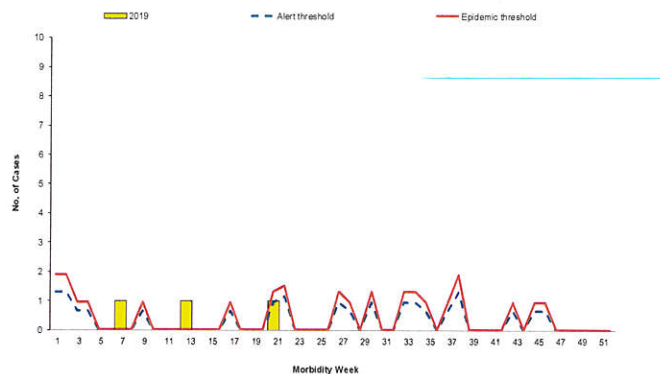


Fig. 20 Reported Leptospirosis Cases by Morbidity Week  
Region CAR, as of January 1-July 27, 2019 (n=17)

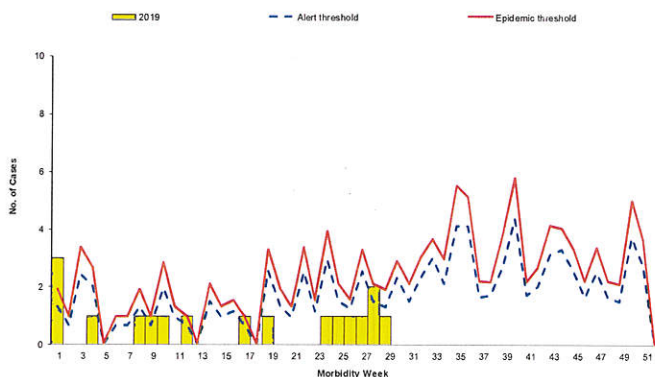


Fig. 21 Reported Leptospirosis Cases by Morbidity Week  
Region Caraga, as of January 1-July 27, 2019 (n=10)

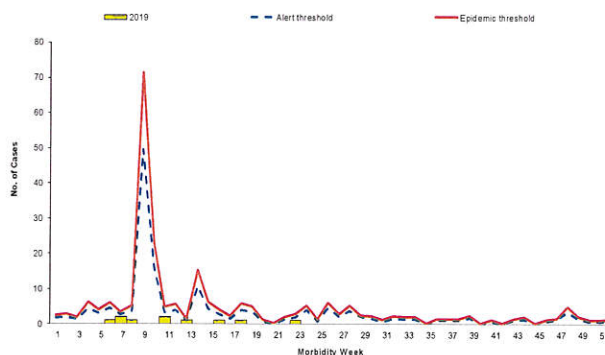
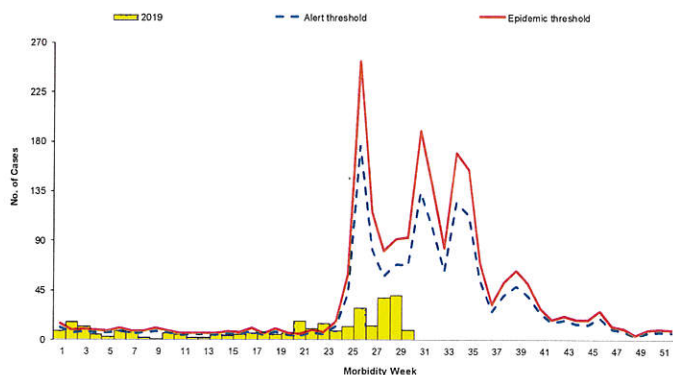


Fig. 22 Reported Leptospirosis Cases by Morbidity Week  
Region NCR, as of January 1-July 27, 2019 (n=307)







**Annex A. Reported Leptospirosis Cases by Region of Disease Reporting Unit (DRU) and Name of DRUs  
Philippines, as of July 27, 2019 (N=916)**

REGION OF DRU	NAME OF DRU	Total
I	DAGUPAN CITY HEALTH OFFICE	1
	ILOCOS TRAINING AND REGIONAL MEDICAL CENTER	4
	MARIANO MARCOS MEMORIAL HOSPITAL AND MEDICAL CENTER	1
	PANGASINAN PROVINCIAL HOSPITAL	9
	REGION I MEDICAL CENTER	20
<b>01 Total</b>		<b>35</b>
II	CAGAYAN VALLEY MEDICAL CENTER	54
	DIVINE MERCY WELLNESS CENTER	1
	ECHAGUE DISTRICT HOSPITAL	1
	GOV. FAUSTINO N. DY SR. MEMORIAL HOSP.	1
	NUEVA VIZCAYA PROVINCIAL HOSPITAL	2
	QUIRINO PROVINCIAL HOSPITAL	1
	REGION II TRAUMA AND MEDICAL CENTER	5
	SOUTHERN ISABELA GENERAL HOSPITAL	2
	SOUTHERN ISABELA MEDICAL CENTER	3
	ST. PAUL HOSPITAL	2
	VETERANS REGIONAL HOSPITAL	1
<b>02 Total</b>		<b>73</b>
III	BATAAN GENERAL HOSPITAL AND MEDICAL CENTER	14
	BULACAN MEDICAL CENTER	5
	CANDELARIA DISTRICT HOSPITAL	1
	DR. PAULINO J. GARCIA MEMORIAL RESEARCH AND MEDICAL CENTER	15
	GRACE GENERAL HOSPITAL	1
	ISAAC & CATALINA MEDICAL CENTER	1
	JAMES L. GORDON MEMORIAL HOSPITAL	1
	JOSE B. LINGAD MEMORIAL HOSPITAL	5
	M.V. GALLEGO CABANATUAN CITY GEN. HOSP	1
	NUEVA ECIJA DOCTORS HOSPITAL INC.	1
	PANIQUEI GENERAL HOSPITAL	4
	PREMIERE MEDICAL CENTER	1
	RAYOS-VALENTIN HOSPITAL	2
	SAN MIGUEL DISTRICT HOSPITAL	2
	STO. DOMINGO DISTRICT HOSPITAL	1
	SUBIC RHU	2
	TARLAC PROVINCIAL HOSPITAL	9
	V.L. MAKABALI MEMORIAL HOSPITAL, INC.	2
<b>03 Total</b>		<b>68</b>
IV-A	ANGONO GENERAL HOSPITAL	1
	BAGONG CAINTA MUNICIPAL HOSP.	1
	BATANGAS HEALTH CARE HOSPITAL (Jesus of Nazareth)	2
	BATANGAS MEDICAL CENTER	1
	CLINICA ANTIPOLLO HOSPITAL AND WELLNESS CENTER INC.	1
	DE LA SALLE UNIVERSITY MEDICAL CENTER	2
	EMILIO AGUINALDO COLLEGE MEDICAL CENTER	1
	GEN. EMILIO AGUINALDO MEMORIAL HOSPITAL	1
	LAGUNA PROVINCIAL HOSPITAL	1
	MAJAYJAY MEDICARE HOSPITAL	1
	N. L. VILLA MEMORIAL MEDICAL CENTER	1
	OSPITAL NG CALACA	1
	RPHS ANTIPOLLO ANNEX 2	1
	ST. DOMINIC MEDICAL CENTER, INC.	1
	UPH- DR. JOSE G. TAMAYO MEDICAL CENTER	1
<b>04A Total</b>		<b>17</b>
IV-B	CUYO DISTRICT HOSPITAL	1
	MA. ESTRELLA GENERAL HOSPITAL	2
	OCCIDENTAL MINDORO PROVINCIAL HOSPITAL	1
	SAN JOSE DISTRICT HOSPITAL	1
<b>04B Total</b>		<b>5</b>



**Annex A. Reported Leptospirosis Cases by Region of Disease Reporting Unit (DRU) and Name of DRUs  
 Philippines, as of July 27, 2019 (N=916) (continuation)**

REGION OF DRU	NAME OF DRU	Total
V	BICOL MEDICAL CENTER	50
	BICOL REGIONAL TRAINING AND TEACHING HOSP.	25
	CAMARINES NORTE PROVINCIAL HOSPITAL	1
	DR. FERNANDO B. DURAN, SR. MEMORIAL HOSP.	3
	EASTERN BICOL MEDICAL CENTER	3
	NAGA IMAGING CENTER COOPERATIVE DOCTORS HOSPITAL	1
	STA. MARIA JOSEFA FOUNDATION HOSPITAL	5
	USI-MOTHER SETON HOSPITAL	1
<b>05 Total</b>		<b>89</b>
VI	ALEOSAN DISTRICT HOSPITAL	2
	ALFREDO MARAÑON SR. MEMORIAL HOSPITAL	2
	ANGEL SALAZAR MEMORIAL GENERAL HOSPITAL	3
	ANTIQUE MEDICAL CENTER	1
	BACOLOD ADVENTIST MEDICAL CENTER	2
	BACOLOD QUEEN OF MERCY HOSPITAL	1
	CADIZ DISTRICT HOSPITAL	2
	CAPIZ DOCTORS' HOSPITAL, INC.	1
	CAPIZ EMMANUEL HOSPITAL, INC.	1
	CORAZON LOCSIN MONTELIBANO MEMORIAL REGIONAL HOSP.	40
	DR. CATALINO GALLEGOS NAVA PROVINCIAL HOSPITAL	5
	HOLY MOTHER OF MERCY HOSPITAL	1
	ILOILO DOCTOR'S HOSPITAL, INC.	3
	ILOILO MISSION HOSPITAL	3
	ILOILO PROVINCIAL HOSPITAL	4
	INAPOY COMMUNITY PRIMARY HOSPITAL	1
	PEDRO L. GINDAP MUNICIPAL HOSPITAL	1
	QUALIMED HOSPITAL ILOILO	1
	RAMON TABIANA MEMORIAL DISTRICT HOSPITAL	4
	ROXAS MEMORIAL PROVINCIAL HOSPITAL	4
	ST. ANTHONY COLLEGE HOSPITAL	2
	ST. PAUL'S HOSPITAL	2
	TERESITA L. JALANDONI PROVINCIAL HOSP.	10
	THE MEDICAL CITY ILOILO	1
	WEST VISAYAS STATE UNIVERSITY MEDICAL CTR.	9
	WESTERN VISAYAS MEDICAL CENTER	6
<b>06 Total</b>		<b>112</b>
VII	ADVENTIST HOSPITAL- CEBU	1
	CEBU NORTH GENERAL HOSPITAL	1
	CHONG HUA HOSPITAL	2
	GOV. CELESTINO GALLARES MEMORIAL HOSPITAL	7
	NEGROS ORIENTAL PROVINCIAL HOSP.	1
	SILLIMAN UNIVERSITY MEDICAL CENTER	3
	VICENTE SOTTO MEMORIAL MEDICAL CENTER	4
<b>07 Total</b>		<b>19</b>
VIII	DIVINE WORD HOSPITAL	6
	EASTERN VISAYAS REGIONAL MEDICAL CTR.	1
	NORTHERN SAMAR PROVINCIAL HOSPITAL	4
	ORMOC DISTRICT HOSPITAL	2
	REMEDIOS TRINIDAD ROMUALDEZ HOSPITAL	1
<b>08 Total</b>		<b>14</b>
IX	CIUDAD MEDICAL ZAMBOANGA	3
	DR. HENRY M. DE VILLA MEMO. HOSP.	1
	MARGOSATUBIG REGIONAL HOSPITAL	2
	WEST METRO MEDICAL CENTER	1
	ZAMBOANGA CITY MEDICAL CENTER	11
	ZAMBOANGA DOCTOR'S HOSPITAL, INC.	1
	ZAMBOANGA SIBUGAY PROVINCIAL HOSPITAL	1
<b>09 Total</b>		<b>20</b>





**Annex A. Reported Leptospirosis Cases by Region of Disease Reporting Unit (DRU) and Name of DRUs  
 Philippines, as of July 27, 2019 (N=916) (continuation)**

REGION OF DRU	NAME OF DRU	Total
X	ADVENTIST MEDICAL CENTER-ILIGAN	1
	BUKIDNON PROVINCIAL HOSPITAL MARAMAG	1
	CAGAYAN DE ORO POLYMEDIC GENERAL HOSP.	3
	E and R HOSPITAL AND PHARMACY	1
	MADONNA AND CHILD HOSPITAL	2
	MALAYBALAY POLYMEDIC GENERAL HOSPITAL	2
	MARIA REYNA HOSPITAL	2
	NORTHERN MINDANAO MEDICAL CENTER	2
<b>10 Total</b>		<b>14</b>
XI	COMPOSTELA VALLEY PROVINCIAL HOSPITAL	1
	DAVAO DOCTORS' HOSPITAL	1
	DAVAO MEDICAL SCHOOL FOUNDATION HOSP.	3
	DAVAO REGIONAL HOSPITAL	18
	DAVAO REGIONAL MEDICAL CENTER	4
	RICARDO LIMSO MEDICAL CENTER, INC.	1
	SOUTHERN PHILIPPINES MEDICAL CENTER (former DAVAO MEDICAL CENTE	13
<b>11 Total</b>		<b>41</b>
XII	LANDERO CLINIC AND HOSPITAL	1
	SOCSARGEN COUNTY HOSPITAL	1
	ST. LOUIS MEDICAL CLINIC AND HOSPITAL	1
<b>12 Total</b>		<b>3</b>
ARMM	SULU PROVINCIAL HOSPITAL	1
<b>ARMM Total</b>		<b>1</b>
CAR	BAGUIO GENERAL HOSPITAL AND MEDICAL CENTER	12
	CONNER DISTRICT HOSPITAL	2
	FAR NORTH LUZON GEN. HOSP. AND TRAINING CENTER	5
	KALINGA PROVINCIAL HOSPITAL	1
	PINES CITY DOCTORS' HOSPITAL	1
<b>CAR Total</b>		<b>21</b>
CARAGA	ADELA SERRA TY MEMORIAL MEDICAL CENTER	2
	CARAGA REGIONAL HOSPITAL	4
	SURIGAO DEL NORTE PROVINCIAL HOSPITAL	1
<b>CARAGA Total</b>		<b>7</b>
NCR	AFP MEDICAL CENTER	1
	AMANG RODRIGUEZ MEDICAL CENTER	25
	BAGONG SILANGAN HEALTH CENTER	1
	CARDINAL SANTOS MEDICAL CENTER	1
	DR. JOSE N. RODRIGUEZ MEMORIAL HOSP.	10
	DR. VICTOR R. POTENCIANO MEDICAL CENTER	2
	EAST AVENUE MEDICAL CENTER	73
	GAT ANDRES BONIFACIO MEMORIAL MED. CTR.	3
	JOSE R. REYES MEMORIAL MEDICAL CTR.	12
	LAS PIÑAS GEN. HOSP. & SATELLITE TRAUMA CENTER	14
	MAKATI MEDICAL CENTER	1
	NATIONAL CHILDREN'S HOSPITAL	9
	NATIONAL KIDNEY AND TRANSPLANT INSTITUTE	55
	NODADO GENERAL HOSPITAL CAMARIN	1
	NOVALICHES DISTRICT HOSPITAL	1
	OSPITAL NG MAKATI	11
	OSPITAL NG MAYNILA MEDICAL CENTER	1
	OSPITAL NG PARAÑAQUE	6
	PASIG CITY CHILDREN'S HOSPITAL	1
	PHILIPPINE CHILDREN'S MEDICAL CENTER	6
	PHILIPPINE HEART CENTER	1
	QUEZON CITY GENERAL HOSPITAL	3
	QUIRINO MEMORIAL MEDICAL CENTER	34
	RESEARCH INSTITUTE FOR TROPICAL MEDICINE	2
	RIZAL MEDICAL CENTER	9
	SAN JUAN DE DIOS EDUCATIONAL FOUNDATION, INC.	1
	SAN LAZARO HOSPITAL	39
	SAUYO HEALTH CENTER	2
	ST. LUKE'S MEDICAL CENTER-GLOBAL CITY	1
	STA. ANA HOSPITAL (NEW)	3
	TONDO MEDICAL CENTER	33
	UP-PHILIPPINE GENERAL HOSPITAL	11
	VALENZUELA MEDICAL CENTER	4
<b>NCR Total</b>		<b>377</b>
<b>Philippines</b>		<b>916</b>