



Food and Waterborne Diseases

Food and waterborne illnesses are conditions caused by eating or drinking food or water that is contaminated by microorganisms or the toxins they produce. It typically causes gastrointestinal symptoms such as abdominal pain, nausea, vomiting, and diarrhea. Exposure to a variety of pathogens in water and food causes diarrheal disease. The mode of transmission is fecal-oral route.

I. Acute Bloody Diarrhea

Trend in the Philippines

A total of 14,487 acute bloody diarrhea cases were reported nationwide from January 1 to December 31, 2016. This is 12.89% higher compared to the same time period last year (12,833) (Table 1). There were 52 reported deaths (CFR=0.36%) (Table 2).

Geographical Distribution

Most of the reported cases were from the following regions: Region VII (40.91%), CAR (12.21%), CARAGA (10.98%), Region II (7.81%), and Region IX (5.93 %) (Fig.2 and Table 2).

Profile of Cases

Ages of cases ranged from less than 1 month to 98 years old (median= 15 years). A little more than half (51%) of the cases were females. The most affected age group were from 1 year to 4 years (25.32%) (Fig.3).

Further Analysis

A total of 7,800 (54%) samples were referred for testing. Of these, 6,908 (89%) were laboratory confirmed with different organisms. The top organisms identified were *entamoeba histolytica* (89%), *escherichia coli* (4%) and *trophozoites* (3%).

Table 2. Acute Bloody Diarrhea Cases & Deaths
Philippines, 2016 vs 2015

Region	Cases			Deaths			
	2016	2015	% Change	2016	CFR (%)	2015	CFR (%)
I	84	84	⇒ 0.00	2	2.38	0	0.00
II	1132	1455	↓ -22.20	0	0.00	0	0.00
III	240	258	↓ -6.98	0	0.00	0	0.00
IV-A	291	246	↑ 18.29	1	0.34	0	0.00
MIMAROPA	111	87	↑ 27.59	0	0.00	1	1.15
V	60	44	↑ 36.36	0	0.00	0	0.00
VI	154	278	↓ -44.60	0	0.00	0	0.00
VII	5927	3568	↑ 66.12	41	0.69	10	0.28
VIII	368	481	↓ -23.49	0	0.00	1	0.21
IX	859	1084	↓ -20.76	1	0.12	3	0.28
X	763	1082	↓ -29.48	2	0.26	2	0.18
XI	246	216	↑ 13.89	3	1.22	0	0.00
XII	418	547	↓ -23.58	1	0.24	0	0.00
ARMM	136	10	↑ 1260.00	1	0.74	0	0.00
CAR	1769	1668	↑ 6.06	0	0.00	1	0.06
CRG	1591	1519	↑ 4.74	0	0.00	0	0.00
NCR	338	206	↑ 64.08	0	0.00	0	0.00
Philippines	14487	12833	↑ 12.89	52	0.36	18	0.14

Table 1. Food & Waterborne Diseases
Philippines, 2016 vs 2015

FOOD/WATER-BORNE DISEASES	2016			2015	% Difference 2016 vs 2015
	Cases	Deaths	CFR (%)	Cases	
Acute Bloody Diarrhea	14,487	52	0.36	12,833	↑ 12.89
Confirmed Cholera	124	0	0.00	18	↑ 588.89
Confirmed Rotavirus	1498	3	0.20	908	↑ 64.98
Hepatitis A	666	2	0.30	839	↓ -20.62
Typhoid	31,121	45	0.14	31,379	↓ -0.82

Fig. 1 Acute Bloody Diarrhea Cases by Morbidity Week
Philippines, January 1- December 31, 2016
2015 vs 2016

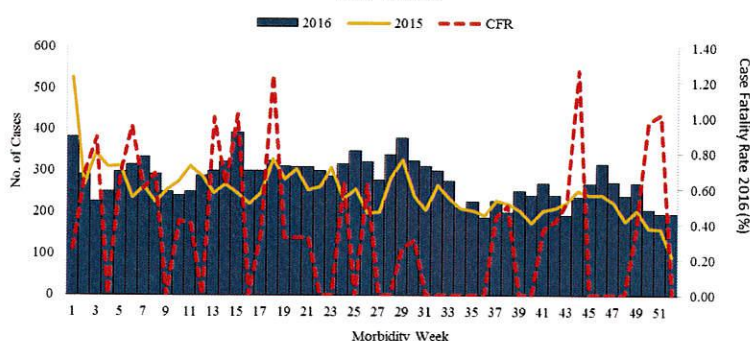


Fig. 2 Acute Bloody Diarrhea Cases by Region and Outcome (N=14,487)
Philippines, January 1- December 31, 2016

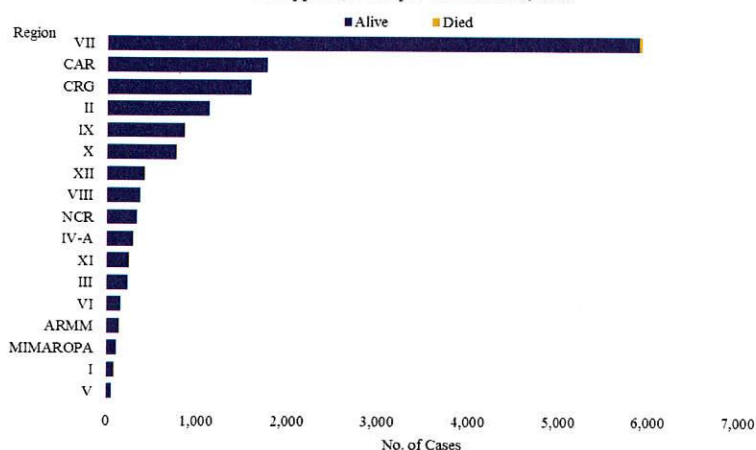
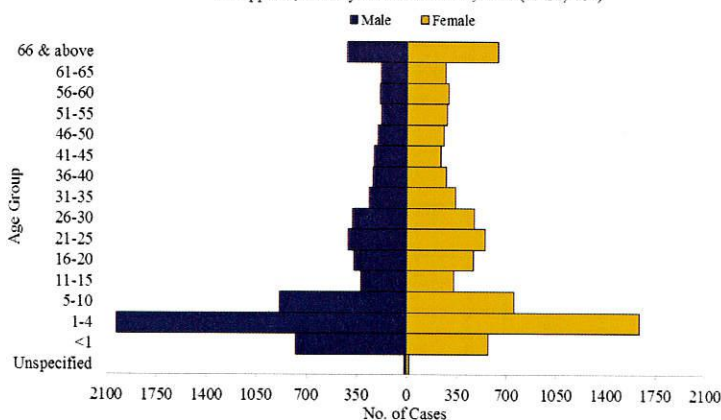


Fig. 3 Acute Bloody Diarrhea Cases by Age Group and Sex
Philippines, January 1- December 31, 2016 (N=14, 487)





II. Cholera

Trend in the Philippines

A total of 14,592 reported cholera cases nationwide from January 1 to December 31, 2016. Among which, 96 deaths were reported (CFR=0.66%). Of the reported cases, 124 (1%) cases were laboratory confirmed cholera, no deaths reported (Table 1).

Geographical Distribution

Confirmed cases were from the following regions: Region VIII (20.97%), Region IVA (16.94%), Region VI (14.52%), Region I (12.90%) and Region V (9.68%) (Fig.5 and Table 4).

Profile of Cases

Ages of confirmed cases ranged from less than 1 month to 80 years old (median= 14 years). A little more than half (51%) of the cases were males. The most affected age group were from 5 to 10 years (23%) (Fig.6).

Further Analysis

A total of 637 (4%) samples were referred for testing. Of these, 124 (19%) were laboratory confirmed for *Vibrio cholerae*. The organisms identified among confirmed cases were *Vibrio cholerae* Ogawa biotype El Tor (56%), *Vibrio cholerae* Ogawa (35%), *Vibrio cholera* 01 (3%), *Vibrio cholera* Inaba (2%), *Vibrio cholera* (2%), *Vibrio cholera* 0139 (2%), and *Vibrio cholera* Non-01/Non-0139 (1%). (Table 3).

Table 4. Confirmed Cholera Cases & Deaths by Region
Philippines, 2016 vs 2015

Region	Cases			Deaths			
	2016	2015	% Change	2016	CFR (%)	2015	CFR (%)
I	16	0	⇒ 0.00	0	0.00	0	0.00
II	0	0	⇒ 0.00	0	0.00	0	0.00
III	11	0	⇒ 0.00	0	0.00	0	0.00
IV-A	21	3	↑1800.00	0	0.00	0	0.00
MIMAROPA	0	0	⇒ 0.00	0	0.00	0	0.00
V	12	0	↑1200.00	0	0.00	0	0.00
VI	18	0	↑1800.00	0	0.00	0	0.00
VII	0	0	⇒ 0.00	0	0.00	0	0.00
VIII	26	0	↑2600.00	0	0.00	0	0.00
IX	0	0	⇒ 0.00	0	0.00	0	0.00
X	8	0	⇒ 0.00	0	0.00	0	0.00
XI	2	0	↑200.00	0	0.00	0	0.00
XII	0	10	↓-100.00	0	0.00	0	0.00
ARMM	4	0	⇒ 0.00	0	0.00	0	0.00
CAR	2	0	⇒ 0.00	0	0.00	0	0.00
CRG	4	0	⇒ 0.00	0	0.00	0	0.00
NCR	0	5	↓-100.00	0	0.00	0	0.00
Philippines	124	18	↑588.89	0	0.00	0	0.00

Fig. 4 Cholera Cases by Morbidity Week and Case Classification
Philippines, January 1- December 31, 2016
2015 vs 2016

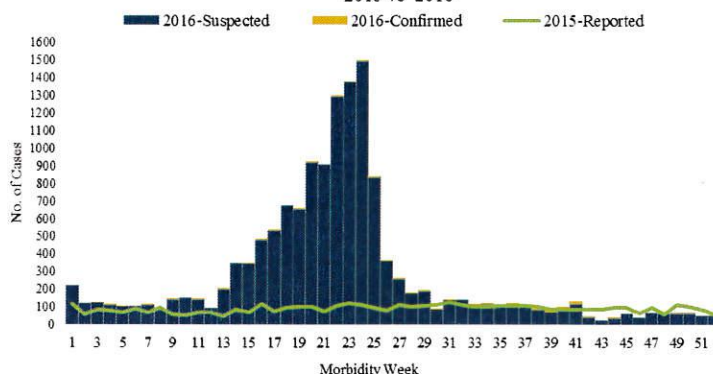


Fig. 5 Cholera Cases by Region and Case Classification (N=14,592)
Philippines, January 1- December 31, 2016

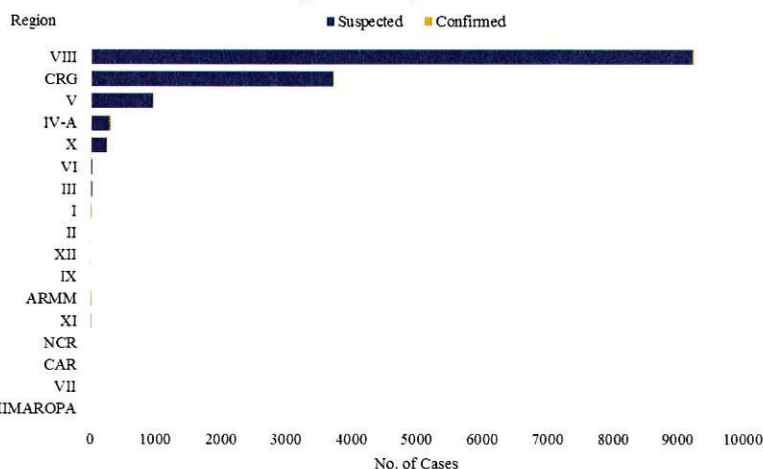


Fig. 6 Cholera Cases by Age Group, Sex and Case Classification (N=14,592)
Philippines, January 1- December 31, 2016

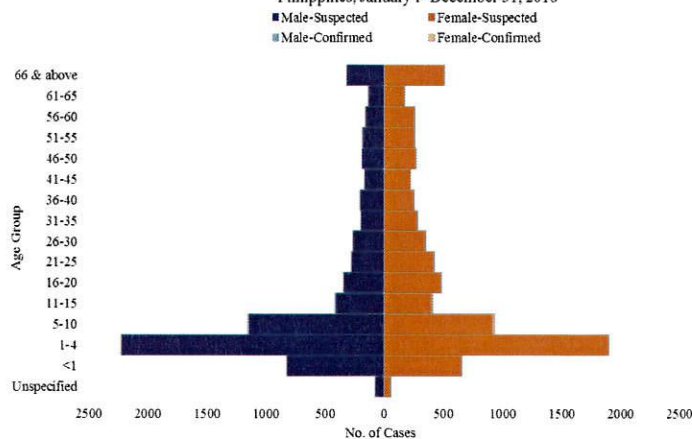


Table 3. Organisms in Cholera Cases (n=124)

Organism	Cases	%
VIBRIO CHOLERAEE OGAWA BIOTYPE EL TOR	69	55.65
VIBRIO CHOLERAEE OGAWA	43	34.68
VIBRIO CHOLERAEE 01	4	3.23
VIBRIO CHOLERAEE INABA	3	2.42
VIBRIO CHOLERAEE	2	1.61
VIBRIO CHOLERAEE 0139	2	1.61
VIBRIO CHOLERAEE NON 01/NON 0139	1	0.81
Total	124	100



III. Hepatitis A

Trend in the Philippines

A total of 666 Hepatitis A cases reported nationwide from January 1 to December 31, 2016. This is 20.62% lower compared to the same time period last year (839). There were 2 reported deaths (CFR=0.30%) (Table 1).

Geographical Distribution

Most of the cases were from the following regions: Region VII (29.28%), Region VI (11.26%), NCR (8.71%), Region IX (8.41%) and Region IVA (7.96) (Fig.8 and Table 5).

Profile of Cases

Ages of cases ranged from 6 months to 81 years old (median= 22 years). Majority of the confirmed cases were male (66%). The most affected age group were from 16 to 20 years (17%) (Fig.9).

Further Analysis

A total of 666 (100%) samples were reactive for IgM anti-HAV.

Table 5. Hepatitis A Cases & Deaths by Region
Philippines, 2016 vs 2015

Region	Cases			Deaths			
	2016	2015	% Change	2016	CFR (%)	2015	CFR (%)
I	13	28	↓-53.57	0	0.00	0	0.00
II	7	2	↑500.00	0	0.00	0	0.00
III	20	38	↓-47.37	0	0.00	0	0.00
IV-A	53	76	↓-30.26	0	0.00	0	0.00
MIMAROPA	26	6	↑2000.00	0	0.00	1	16.67
V	14	8	↑75.00	0	0.00	0	0.00
VI	75	200	↓-62.50	0	0.00	0	0.00
VII	195	140	↑39.29	1	0.51	0	0.00
VIII	10	9	↑11.11	0	0.00	0	0.00
IX	56	90	↓-37.78	0	0.00	0	0.00
X	52	109	↓-52.29	0	0.00	0	0.00
XI	8	18	↓-55.56	0	0.00	0	0.00
XII	23	34	↓-32.35	0	0.00	0	0.00
ARMM	35	23	↑52.17	0	0.00	0	0.00
CAR	7	16	↓-56.25	0	0.00	0	0.00
CRG	14	6	↑133.33	0	0.00	0	0.00
NCR	58	36	↑61.11	1	1.72	0	0.00
Philippines	666	839	↓-20.62	2	0.30	1	0.12

Fig. 7 Hepatitis A Cases by Morbidity Week
Philippines, January 1- December 31, 2016
2015 vs 2016

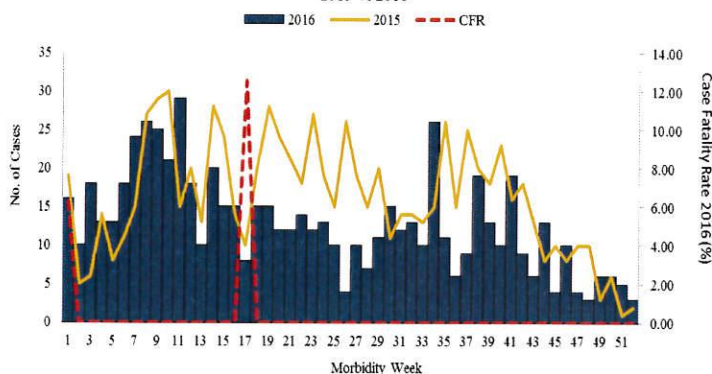


Fig. 8 Hepatitis A Cases by Region (N=666)
Philippines, January 1- December 31, 2016

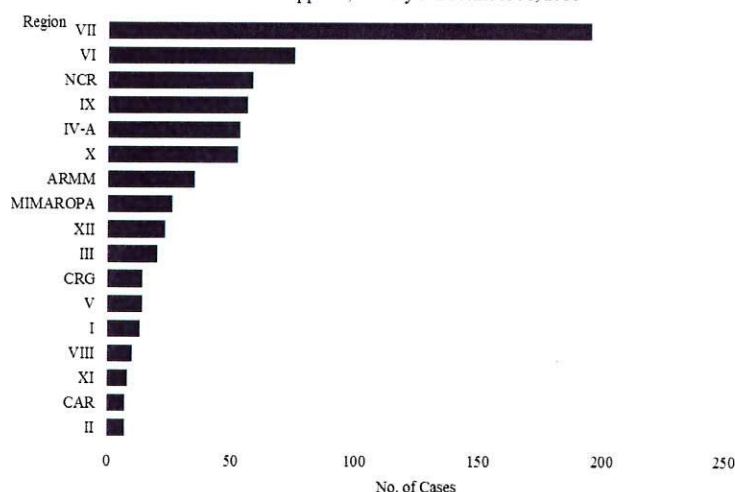
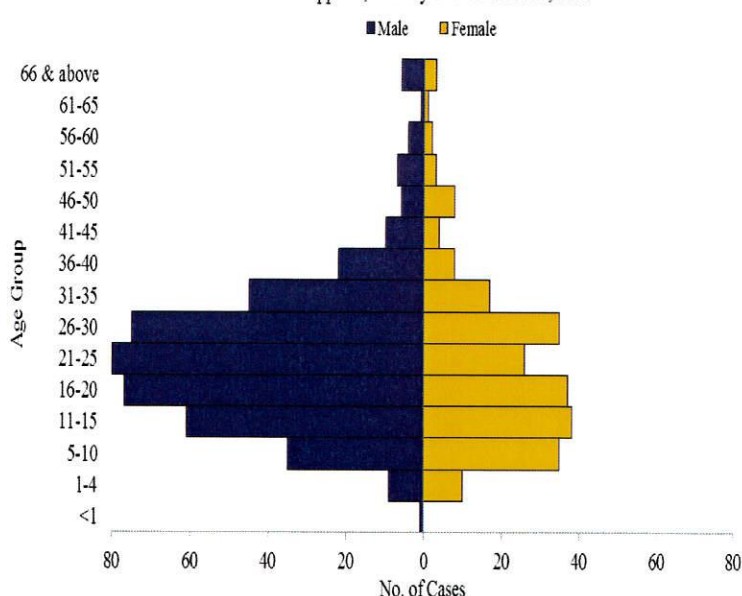


Fig. 9 Hepatitis A Cases by Age Group and Sex (N=666)
Philippines, January 1- December 31, 2016





IV. Rotavirus

Trend in the Philippines

A total of 4,986 reported rotavirus cases nationwide from January 1 to December 31, 2016. Among which, 68 deaths were reported (CFR=1.36%). Of the reported cases, 1,498 (30%) cases were laboratory confirmed rotavirus, 3 deaths were reported. This is 65% higher compared to the same time period last year (908) (Table 6).

Geographical Distribution

Confirmed cases were mostly from the following regions: Region VI (22.63%), Region I (21.30%), ARMM (15.42%), Region XII (14.35%) and NCR (8.54%) (Fig.11 and Table 6).

Profile of Cases

Ages of confirmed cases ranged from less than 1 month to 79 years old (median= 1 year). Majority of the confirmed cases were male (59%). Most of the confirmed cases belonged to 1 year old (36.85%) (Fig. 12).

Further Analysis

A total of 3,728 (75%) samples were tested. Of these, 1,498 (40%) were laboratory confirmed for rotavirus, 2,230 (60%) were negative.

Table 6. Confirmed Rotavirus Cases & Deaths by Region
Philippines, 2016 vs 2015

Region	Cases			Deaths			
	2016	2015	% Change	2016	CFR(%)	2015	CFR(%)
I	319	219	↑ 45.66	2	0.63	2	0.91
II	0	0	⇒ 0.00	0	0.00	0	0.00
III	2	1	↑ 100.00	0	0.00	0	0.00
IV-A	5	0	↑ 500.00	0	0.00	0	0.00
MIMAROPA	22	67	↓ -67.16	0	0.00	0	0.00
V	27	2	↑ 1250.00	0	0.00	0	0.00
VI	339	134	↑ 152.99	0	0.00	1	0.75
VII	0	0	⇒ 0.00	0	0.00	0	0.00
VIII	30	0	↑ 3000.00	0	0.00	0	0.00
IX	69	0	↑ 6900.00	0	0.00	0	0.00
X	0	0	⇒ 0.00	0	0.00	0	0.00
XI	0	0	⇒ 0.00	0	0.00	0	0.00
XII	215	140	↑ 53.57	0	0.00	0	0.00
ARMM	231	160	↑ 44.38	1	0.43	0	0.00
CAR	0	0	⇒ 0.00	0	0.00	0	0.00
CARAGA	111	156	↓ -28.85	0	0.00	0	0.00
NCR	128	29	↑ 341.38	0	0.00	0	0.00
Philippines	1498	908	↑ 64.98	3	0.20	3	0.33

Fig. 10 Confirmed Rotavirus Cases by Morbidity Week and Case Classification.
Philippines, January 1 - December 31, 2016
2015 vs 2016

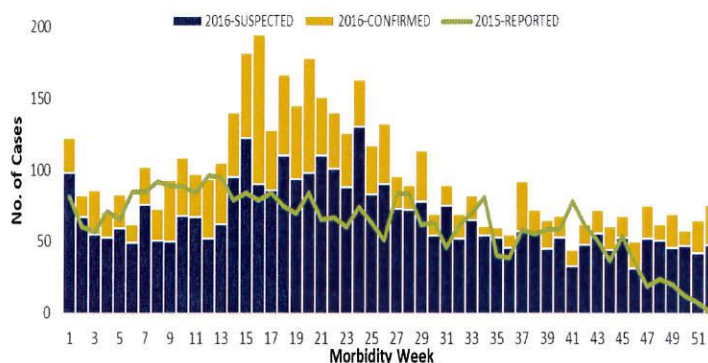


Fig. 11 Rotavirus Cases by Region and Case Classification (N=4,986)
Philippines, January 1 - December 31, 2016

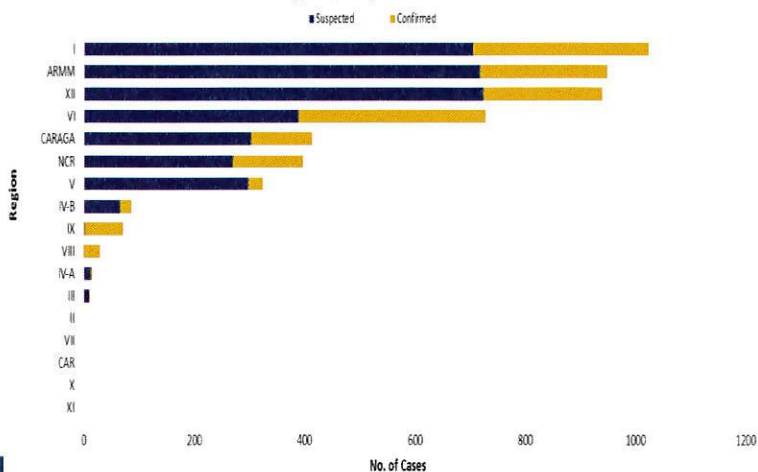
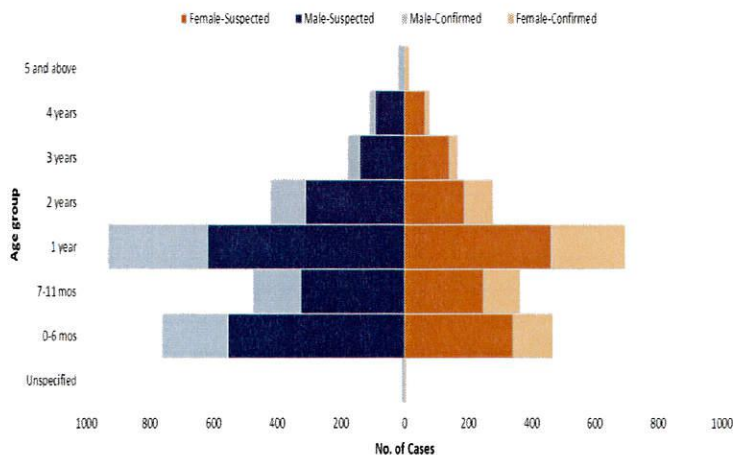


Fig. 12 Rotavirus Cases by Age group, Sex and Case Classification (N=4,986)
Philippines, January 1 - December 31, 2016





V. Typhoid

Trend in the Philippines

A total of 31,121 reported typhoid cases were reported nationwide from January 1 to December 31, 2016 with 45 deaths (CFR=0.14%). This is 1% lower compared to the same time period last year (31,379) (Table 1). Of the reported cases, 320 (1.03%) cases were confirmed typhoid.

Geographical Distribution

Most of the reported cases were from the following regions: Region X (17.75%), CAR (13.85%), Region XII (13.12%), Region VI (10.20%), and Region IVA (6.58%). However, the top 6 regions with confirmed typhoid case were the following: Region VII and CARAGA (15%), Region XII and Region IVB (7.81), and Region IVA and Region VIII (7.50%) (Fig.14 and Table 7).

Profile of Cases

Ages of cases ranged from less than 1 month to 98 years old (median= 17 years). Majority of cases were male (51.54%). The most affected age group were from 5 to 10 years old (16.67%) (Fig.15).

Further Analysis

Among the confirmed cases, the organism found were *Salmonella Typhi* (98.13%), *Salmonella Paratyphi* (0.94%), *Salmonella Enteritidis* (0.31%) and *Salmonella Typhi* + *Paratyphi* (0.63%).

Table 7. Typhoid Cases & Deaths by Region
Philippines, 2016 vs 2015

Region	Cases			Deaths			
	2016	2015	% Change	2016	CFR (%)	2015	CFR (%)
I	1,962	2,600	↓ -24.54	1	0.05	1	0.04
II	644	1,071	↓ -39.87	1	0.16	0	0.00
III	1,324	1,657	↓ -20.10	0	0.00	0	0.00
IV-A	2,048	2,474	↓ -17.22	1	0.05	3	0.12
MMAROPA	955	1,102	↓ -13.34	2	0.21	0	0.00
V	418	370	↑ 12.97	3	0.72	2	0.54
VI	3,174	3,011	↑ 5.41	8	0.25	5	0.17
VII	1,266	1,628	↓ -22.24	8	0.63	6	0.37
VIII	517	636	↓ -18.71	0	0.00	6	0.94
IX	1,787	2,247	↓ -20.47	10	0.56	5	0.22
X	5,525	5,992	↓ -7.79	1	0.02	2	0.03
XI	236	183	↑ 28.96	0	0.00	0	0.00
XII	4,083	2,991	↑ 36.51	1	0.02	0	0.00
ARMM	1,495	489	↑ 205.73	3	0.20	0	0.00
CAR	4,310	3,480	↑ 23.85	2	0.05	1	0.03
CARAGA	1,027	1,125	↓ -8.71	1	0.10	2	0.18
NCR	350	323	↑ 8.36	3	0.86	2	0.62
Philippines	31121	31379	↓ -0.82	45	0.14	35	0.11

Fig. 13 Reported Typhoid Cases by Morbidity Week
Philippines, January 1 - December, 2016
2015 vs 2016

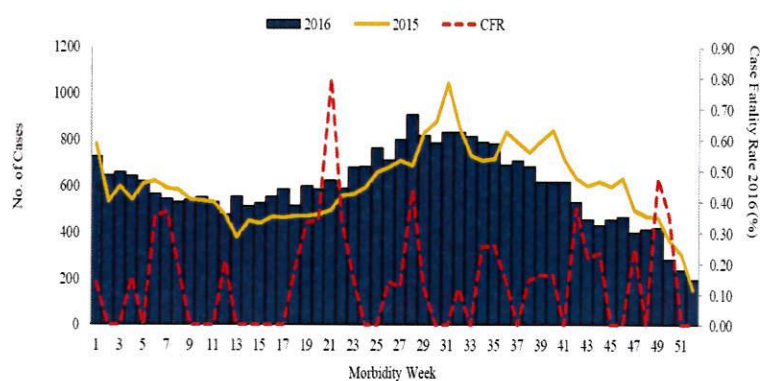


Fig. 14 Typhoid Cases by Region and Case Classification
Philippines, as of January 1 - December 31, 2016 (N=31,121)

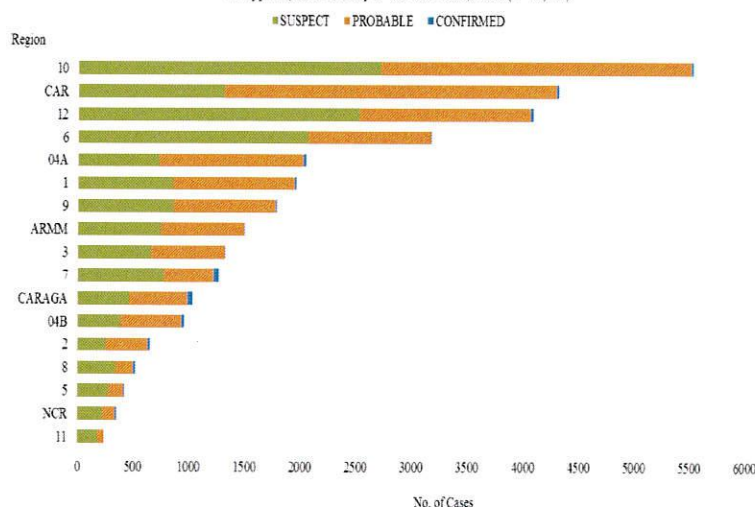
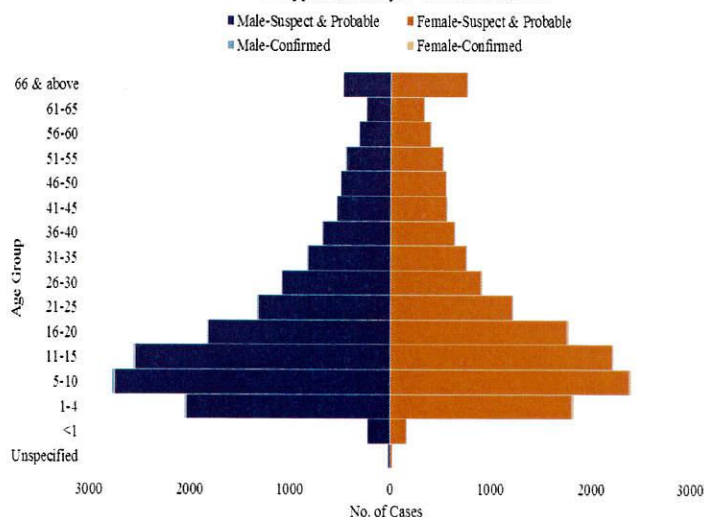


Fig. 15 Typhoid Cases by Age Group, Sex and Case Classification (N=31,121)
Philippines, January 1 - December 31, 2016





Department of Health
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Food and Waterborne Diseases
(January 1 to December 31, 2016)


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