



# Liberia IDSR Epidemiology Bulletin

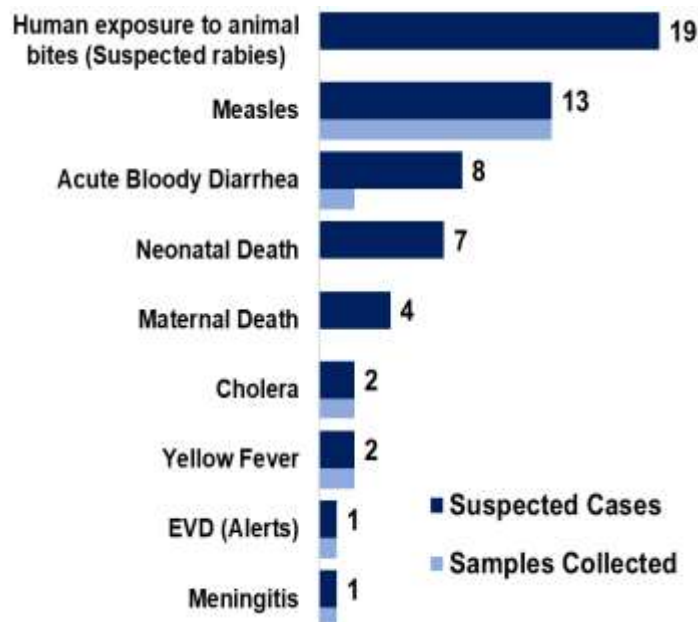
2017 Epi Week 36 (Sept. 4-10, 2017)



Country Population: 4,373,279 | Volume 09, Issue 36 Sept. 4 – 10, 2017 | Data Source: CSOs from 15 Counties and Lab

## Highlights

**Figure 1. Public Health Events Reported in Epi-week 36**



## Keynotes and Events of Public Health Significance

- A total of fifty-eight suspected cases of immediately reportable diseases and events including 11 deaths were reported from 15 counties
- One-hundred percent (100%) reporting for completeness and Ninety-four (94%) reporting for timeliness from health facilities respectively
- One confirmed case of Measles was reported from Montserrado County

## Reporting Coverage

**Table 1. Weekly IDSR Reporting Coverage, Liberia, Epi week 36, 2017**

County	Number of Expected Health Facility Report	Number of Reports Received	Number Received on Time	Completeness (%)	Timeliness (%)
Bomi	23	23	23	100	100
Bong	55	55	55	100	100
Gbarpolu	15	15	12	100	80
Grand Bassa	33	33	33	100	100
Grand Cape Mount	32	32	32	100	100
Grand Gedeh	24	24	24	100	100
Grand Kru	19	19	19	100	100
Lofa	59	59	59	100	100
Margibi	44	44	0	100	0
Maryland	25	25	25	100	100
Montserrado	283	283	283	100	100
Nimba	74	74	74	100	100
Rivercess	19	19	19	100	100
River Gee	19	19	19	100	100
Sinoe	35	35	35	100	100
<b>Liberia (National)</b>	<b>759</b>	<b>759</b>	<b>712</b>	<b>100</b>	<b>94</b>

**712 (94%)**  
Health facilities out of 759 reported timely IDSR data

**91 (100%)**  
Health districts reported IDSR data

**759 (100%)**  
Health facilities reported IDSR data

Legend	≥80	<80

- All counties submitted weekly IDSR report on time except Margibi county
- The national target for weekly IDSR reporting is 80%



## Vaccine Preventable Diseases

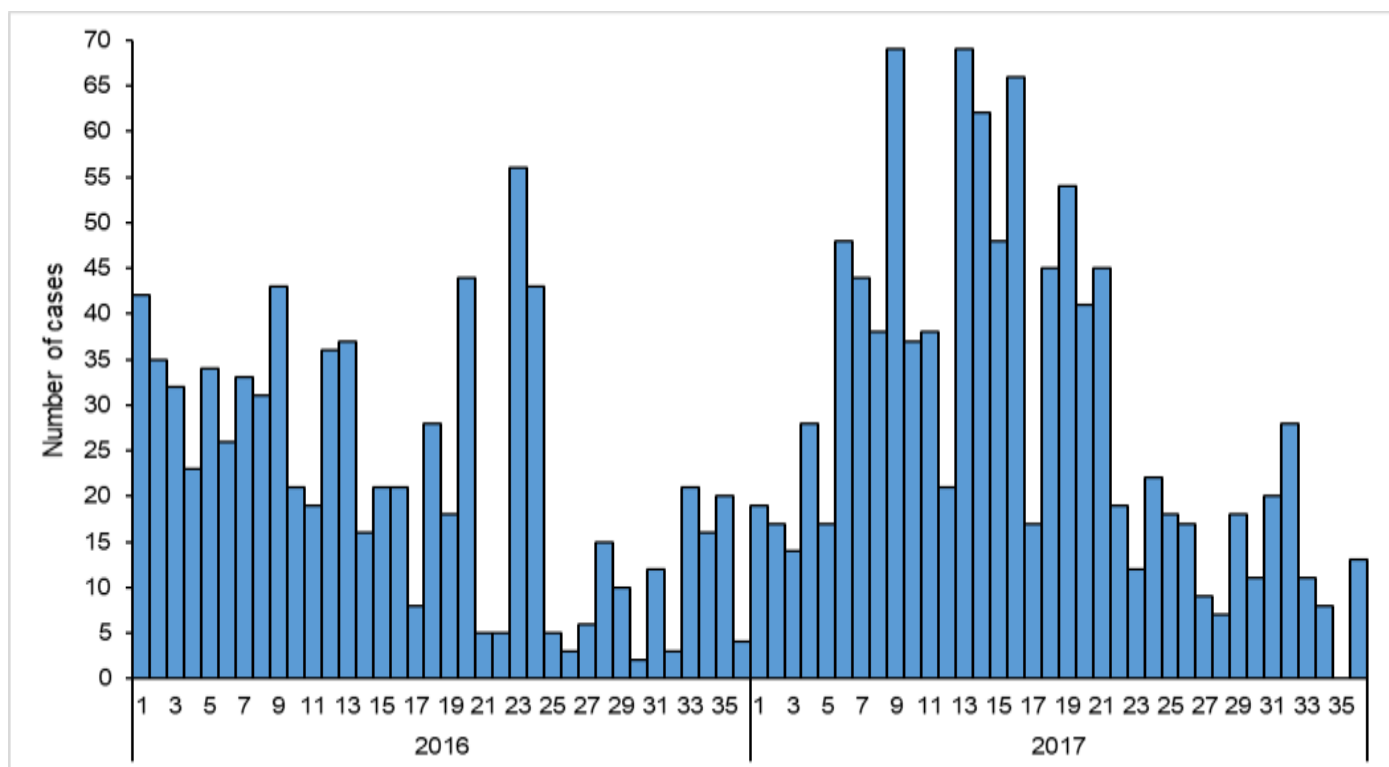
### Measles

- Thirteen suspected cases were reported from Montserrado (3), Grand Bassa (3), Grand Gedeh (2), Lofa (1), Nimba (1), River Gee (1), Margibi (1) and Bomi (1) Counties
- Of the (13) suspected cases reported this week, 8 (62%) were reported to have been previously vaccinated, 4 (31%) had unknown vaccination status and 1 (7%) was not vaccinated
- Four (31%) of the suspected cases were <5 years and nine (69%) were ≥5 years of age
- The one confirmed case was reported from Commonwealth in Montserrado County
- Cumulatively, since Epi week one, 1,063 suspected cases have been reported, of which 905 were tested: 148 (16.4%) positive, 709 (78.3%) negative, 48 (5.3%) equivocal. One hundred fifty-eight of the suspected cases were compatible and epi-linked. Of the 757 equivocal and negative cases, 746 (99%) samples have been tested for rubella, of which, 318 (43%) were positive

### Public Health Actions

- Case management initiated for all suspected cases
- Samples were collected from the 13 suspected cases and sent to the National Reference Laboratory for confirmation
- Active surveillance ongoing in Counties

**Figure 3. Weekly trend of suspected cases of Measles reported, Liberia, Epi weeks 1 – 36, 2016 & 2017**



Note: The x-axis showing only odd numbers of the Epi week

### Acute Flaccid Paralysis (Suspected Polio)

- Zero case of Acute Flaccid Paralysis was reported this week
- Cumulatively, since Epi week one, 70 AFP cases have been reported, of which, 68 (97%) have been tested negative for poliovirus and 2 (3%) are pending laboratory confirmation.



## Neonatal Tetanus

- Zero case of Neonatal tetanus was reported this week
- Cumulatively, since Epi week one, 13 clinically diagnosed cases have been recorded

## Viral Hemorrhagic Diseases

### Ebola Virus Disease (EVD)

- One EVD alert was reported from Grand Gedeh County and tested negative
- Cumulatively, since Epi week one, 305 EVD alerts have been reported, all of which have been tested negative by PCR.

### Lassa fever

- Zero case of Lassa Fever was reported this week
- Cumulatively, since Epi week one, 40 suspected cases have been reported, and samples were collected from all cases
- Of the 40 samples, 7 have been confirmed positive by RT-PCR and ELISA-Antigen and 10 negative
- Of the 7 confirmed cases, 4 deaths were reported, the case fatality rate in confirmed cases is 57%.

### Yellow fever

- Two suspected cases were reported from River Gee and Grand Cape Mount Counties.
- Samples were collected from the suspected cases and sent to the National Reference laboratory.
- Cumulatively, since Epi-week one, 141 suspected cases have been reported, all of which have been tested negative.

### Meningitis

- One suspected cases of meningitis was reported from Grand Kru County.
- Sample was collected and send to National Reference Laboratory
- Cumulatively, since Epi week one, 47 suspected cases have been reported
- Of the 47 suspected cases, 31 (including 13 deaths) were reported as part of an outbreak in three counties (Grand Bassa, Montserrado and Sinoe), with *Neisseria meningitidis* serogroup C confirmed in 13 cases, including 11 deaths (case fatality rate 85%).

## Events of Public Health Importance

### Maternal Mortality

- Four maternal deaths were reported from Montserrado (1), Grand Kru (1), Grand Bassa (1) and Bong (1) Counties
- Reported causes of deaths were: Postpartum hemorrhage (2), and Anemia (2)
- Two of the deaths were reported to have occurred in the health facility and two in the community
- Cumulatively, since Epi-week one, 175 maternal deaths have been reported (see Table 3 for causes of death)

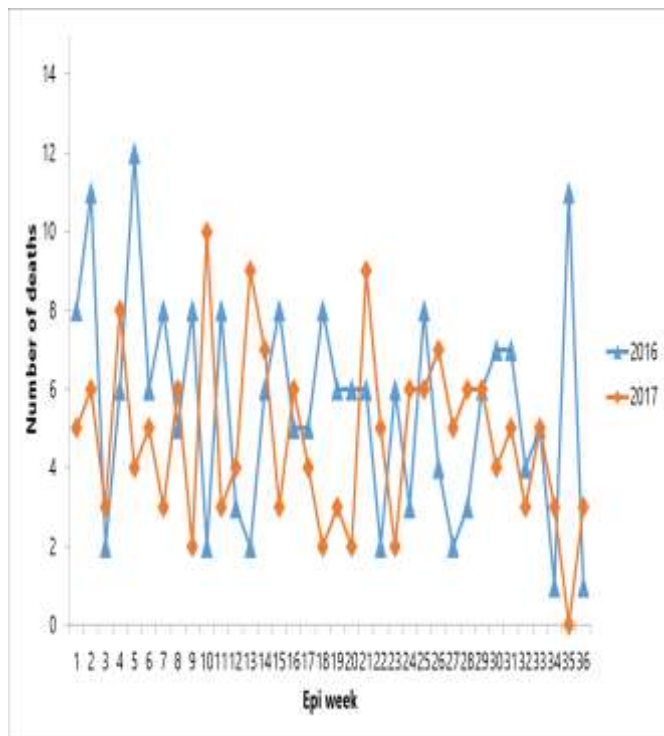


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**Figure 4. Comparison of the trend of Maternal Deaths Reported, Liberia, Epi weeks 1 - 36, 2016 & 2017**



**Table 3. Causes of Maternal Death, Liberia, Epi weeks 1 - 36, 2017 (n=175)**

Maternal Death	Number	Percentage
Post-partum hemorrhage	60	34.3
Anemia	25	14.3
Sepsis	24	13.7
Eclampsia	18	10.3
Ruptured uterus	7	4.0
Unknown	7	4.0
Renal failure	6	3.4
Cardiac pulmonary failure	6	3.4
Congestive Heart failure	4	2.3
Pre-eclampsia	4	2.3
Abruption placenta	3	1.7
Multiple organ failure	2	1.1
Obstructed labor	2	1.1
Dissimilated intravascular coagulation	1	0.6
Amniotic fluid embolism	1	0.6
Respiratory Distress	1	0.6
Umbilical Hernia (Omphalocele)	1	0.6
Spinal shock	1	0.6
Prolong Labour	1	0.6
Hepatitis B	1	0.6
<b>Total</b>	<b>175</b>	<b>100</b>

**Table 5. Cumulative Maternal Deaths Reported by Counties, Liberia, Epi weeks 1 - 36, 2017**

County	Annual Live birth <sup>1</sup>	Current week	Cumulative	% of Cumulative Maternal deaths	Annualized Maternal Mortality Ratio/100,000
Grand Bassa	11494	36	21	12	594
Maryland	7048	36	8	6	369
Bomi	4361	36	8	5	596
Grand Kru	3002	36	6	3	649
Sinoe	5308	36	7	5	429
River Gee	3707	36	4	2	351
Montserrado	57974	36	43	25	241
Bong	17289	36	19	11	357
Margibi	10883	36	13	7	388
Nimba	23953	36	21	13	285
Lofa	14354	36	11	8	249
Rivercess	3463	36	2	1	188
Gbarpolu	4323	36	4	2	301
Grand Cape Mount	6588	36	1	1	49
Grand Gedeh	6494	36	7	2	350
<b>Liberia</b>	<b>180242</b>	<b>36</b>	<b>175</b>	<b>100</b>	<b>316</b>

<sup>1</sup> Number of live birth is at 4.3% of the estimated population for 2017 (Source: EPI/MoH)



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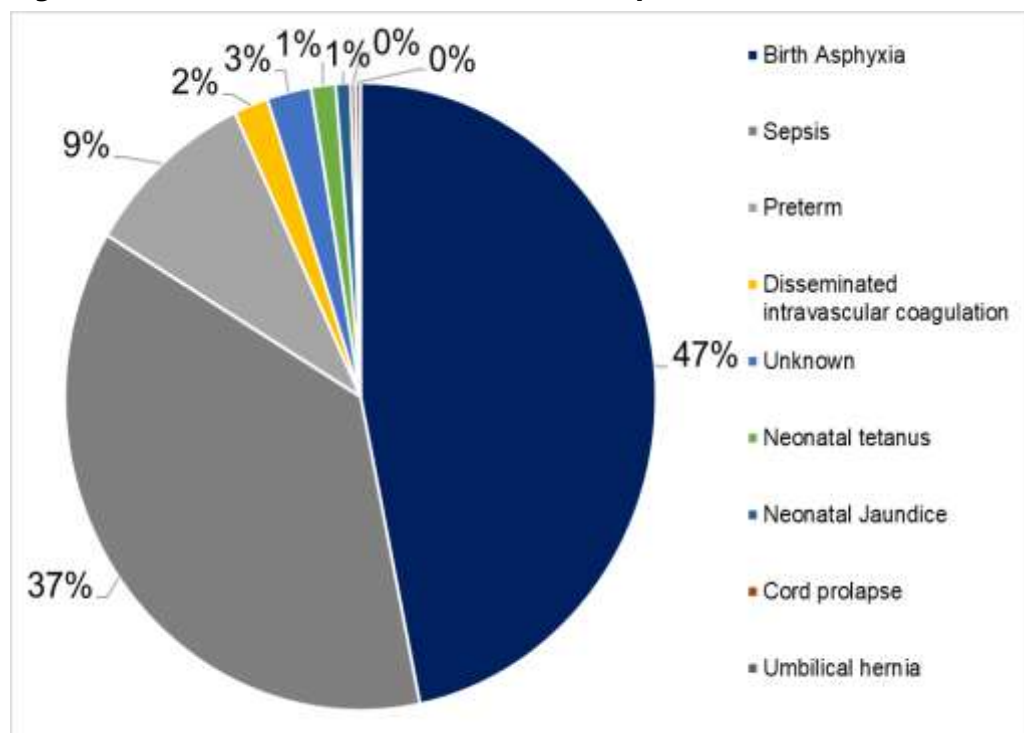


## Neonatal Mortality

Seven neonatal deaths were report from Montserrado (2), Lofa (2), Grand Bassa (2), and Gbarpolu (1) Counties

- Reported causes of death were:
  - Neonatal sepsis (2)
  - Birth asphyxia (2)
  - Severe dehydration
  - Neonatal tetanus
  - Depression
- All seven deaths were reported to have occurred at health facility
- Cumulatively, since Epi week one, 412 neonatal deaths have been

**Figure 5. Causes of Neonatal Death, Liberia, Epi weeks 1 - 36, 2017 (n=412)**



**Table 5. Cumulative Neonatal Deaths Reported by Counties, Liberia, Epi weeks 1 - 36 2017**

County	Annual Live birth	Current Week	Cumulative Neonatal deaths	% of Cumulative Neonatal deaths	Annualized Neonatal Mortality Rate/1000
River Gee	3707	36	28	7	24.5
Maryland	7048	36	47	11	21.7
Sinoe	5308	36	22	5	13.5
Grand Kru	3002	36	11	3	11.9
Montserrado	57974	36	147	36	8.2
Bong	17289	36	41	10	7.7
Rivercess	3463	36	11	3	10.3
Grand Gedeh	6494	36	16	4	8.0
Gbarpolu	4323	36	5	1	3.8
Grand Bassa	11494	36	13	3	3.7
Lofa	14354	36	40	10	9.1
Nimba	23953	36	14	3	1.9
Margibi	10883	36	12	3	3.6
Grand Cape Mount	6588	36	2	0	1.0
Bomi	4361	36	3	1	2.2
<b>Liberia</b>	<b>180242</b>	<b>36</b>	<b>412</b>	<b>100</b>	<b>7.4</b>



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## Human Exposure to Animal Bites (Suspected Rabies)

- Nineteen events of animal bites were reported from Margibi (4), Sinoe (4), Nimba (3), Maryland (2), River Gee (2), Rivercess (1), Montserrado (1), Gbarpolu (1), and Bomi (1) Counties
- Cumulatively, since Epi week one, 964 events of animal bites have been reported.

## Bloody Diarrhea (Shigellosis)

- Eight cases of bloody diarrhea were reported from Sinoe (5), Gbarpolu (2), and Grand Cape Mount (1) Counties; specimen was collected from the case in Grand Cape Mount County.
- Cumulatively, since Epi week one, 184 cases of bloody diarrhea have been reported, specimens were collected for 83 cases while specimens were not collected for 101 of the cases.
- Of the 83 specimens that were collected, four were rejected and 79 tested. Of the 79 tested, 14 (17.7%) were confirmed positive for shigella, 64 (81%) were negative and 1(1.3%) pending laboratory testing

## Severe Acute Watery Diarrhea (Cholera)

- Two suspected cases of cholera were reported from Sinoe (1) and Grand Bassa (1) Counties; specimens were collected from both cases
- Cumulatively, since Epi week one, 128 suspected cases of cholera have been reported, including 4 deaths attributable to cholera. Of the 48 samples collected, 2 (5%) were confirmed positive, 35 (80 %) tested negative and 11 pending

## Public Health Measures

### National level

- Liberia Intermediate Field Epidemiology Training Program workshop 4, of cohort 1 is ongoing
- Weekly meeting with the laboratory to ensure data verification and harmonization
- Work with Counties to determine response state of preparedness (lab specification for CSF collection and transportation, medical supplies and IPC)
- Auto Visual AFP Detection and Reporting (AVADAR) performance review ongoing in Montserrado County
- Follow up with counties to conduct maternal deaths investigation, revision of forms and implementation of recommendations made
- Counties are encouraged to conduct health education for all public health diseases based on risk
- Counties are encouraged to update their cholera preparedness plans and review existing stocks of supplies for repositioning

## Notes

- *Completeness* refers to the proportion of expected weekly IDSR reports received (target:  $\geq 80\%$ )
- *Timeliness* refers to the proportion of expected weekly IDSR reports received by the next level on time (target:  $\geq 80\%$ ). Time requirement for weekly IDSR reports:
  - Health facility - required on or before 5:00pm every Saturday to the district level
  - Health district - required on or before 5:00pm every Sunday to the county level
  - County - required on or before 5:00pm every Monday to the national level
- *Non-polio AFP rate* is the proportion of non-polio AFP cases per 100,000 among the estimated population under 15 years of age in 2017 (annual target:  $\geq 2/100,000$ )
- *Non-measles febrile rash illness rate* refers to the proportion of discarded measles cases per 100,000 population
- *Annualized maternal mortality rate* refers to the maternal mortality rate of a given period less than one year and it is the number of maternal deaths per 100,000 live births



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- *Annualized neonatal mortality rate* refers to the neonatal mortality ratio of a given period less than one year and it is the number of maternal deaths per 1,000 live births
- *Epi-linked* refers to any suspected case that has not had a specimen taken for serologic confirmation but is linked to a laboratory confirmed case
- *Confirmed case* refers to a case whose specimen has tested positive or reactive upon laboratory testing, or has been classified as confirmed by either epidemiologic linkage with a confirmed case, or clinical compatibility with the disease or condition
- *Case Fatality Rate (CFR)* is the proportion of deaths among confirmed cases



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**Appendix 1: Summary of immediately reportable diseases, conditions, and events by County during Epi week 36 and cumulative reports, Liberia, 2017**

Counties	No. of Health Districts	No. of Health District reported	Acute Flaccid Paralysis (Polio)		Bloody Diarrhoea (Shigellosis)		Severe Acute Watery Diarrhoea (Cholera)		Human Exposure to Animal bites (Suspected Rabies)		Lassa Fever		Measles		Meningitis		Maternal Mortality	Neonatal Mortality	Neonatal Tetanus		VHF (including EVD)		Yellow Fever		Other Diseases/Events <sup>0</sup>	
			A	D	A	D	A	D	A	D	A	D	A	D	A	D	D	D	A	D	A	D	A	D	A	D
Bomi	4	4	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
Bong	8	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
Gbarpolu	5	5	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
Grand Bassa	8	8	0	0	0	0	1	0	1	0	0	0	3	0	0	0	1	2	0	0	0	0	0	0	0	0
Grand Cape Mount	5	5	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0
Grand Gedeh	6	6	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	1	0	0	0	0	0
Grand Kru	5	5	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0
Lofa	6	6	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	2	0	0	0	0	0	0	0	0
Margibi	4	4	0	0	0	0	0	0	4	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
Maryland	6	6	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0
Montserrado	7	7	0	0	0	0	0	0	1	0	0	0	3	0	0	0	1	2	0	0	0	0	0	0	0	0
Nimba	6	6	0	0	0	0	0	0	3	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
Rivercess	6	6	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
River Gee	4	4	0	0	0	0	0	0	2	0	0	0	1	0	0	0	0	0	0	0	0	0	1	0	0	0
Sinoe	10	10	0	0	5	0	1	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<b>Total Weekly</b>	<b>90</b>	<b>90</b>	<b>0</b>	<b>0</b>	<b>8</b>	<b>0</b>	<b>2</b>	<b>0</b>	<b>19</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>13</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>4</b>	<b>7</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>2</b>	<b>0</b>	<b>3</b>	<b>0</b>
<b>Cumulative Reported</b>			<b>70</b>	<b>0</b>	<b>184</b>	<b>0</b>	<b>128</b>	<b>5</b>	<b>964</b>	<b>1</b>	<b>22</b>	<b>18</b>	<b>1064</b>	<b>2</b>	<b>14</b>	<b>2</b>	<b>175</b>	<b>412</b>	<b>11</b>	<b>2</b>	<b>33</b>	<b>272</b>	<b>140</b>	<b>1</b>	<b>1803</b>	<b>23</b>
<b>Cumulative Laboratory Confirmed</b>			<b>0</b>	<b>0</b>	<b>6</b>	<b>0</b>	<b>2</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>3</b>	<b>4</b>	<b>148</b>	<b>0</b>	<b>0</b>	<b>0</b>			<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>

Note: **A** = Alive  
**D** = Dead

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