



# Liberia IDSR Epidemiology Bulletin

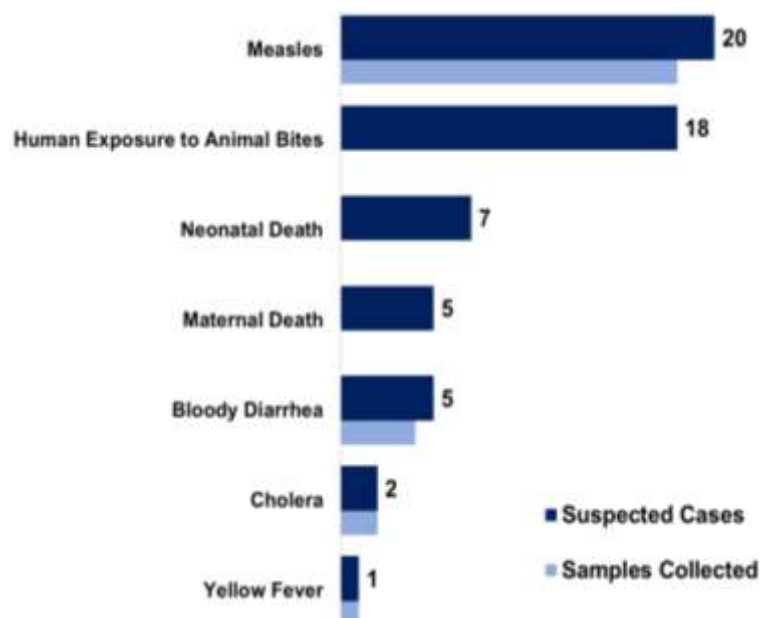
2017 Epi Week 31 (July 31-Aug 6, 2017)



Country Population: 4,373,279 | Volume 09, Issue 31 July 31 – Aug 6, 2017 | Data Source: CSOs from 15 Counties and Lab

## Highlights

Figure 1. Public Health Events Reported in Epi-week 31



## Keynotes and Events of Public Health Significance

- A total of fifty-eight suspected cases of immediately reportable diseases and events with 12 deaths were reported from 15 counties
- Ninety-five percent (95%) reporting for completeness and timeliness from health facilities respectively
- An outbreak of Measles has been confirmed in Zoe-Geh District, Nimba County

## Reporting Coverage

Table 1. Weekly IDSR Reporting Coverage, Liberia, Epi week 31, 2017

County	Number of Health Facility Report Expected	Number of Reports Received	Number Received on Time	Completeness (%)	Timeliness (%)
Bomi	23	23	23	100	100
Bong	55	54	54	98	98
Gbarpolu	15	15	15	100	100
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	45	44	44	98	98
Maryland	25	25	25	100	100
Montserrado	283	283	283	100	100
Nimba	74	36	36	49	49
Rivercess	19	19	19	100	100
River Gee	19	19	19	100	100
Sinoe	35	35	35	100	100
<b>Liberia</b>	<b>760</b>	<b>720</b>	<b>720</b>	<b>95</b>	<b>95</b>

**720 (95%)**  
Health facilities out of 761 reported IDSR data

**90 (100%)**  
Health districts out of 90 reported IDSR data

**720 (95%)**  
Health facility timeliness for weekly IDSR reporting

Legend	≥80	<80

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



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## Vaccine Preventable Diseases

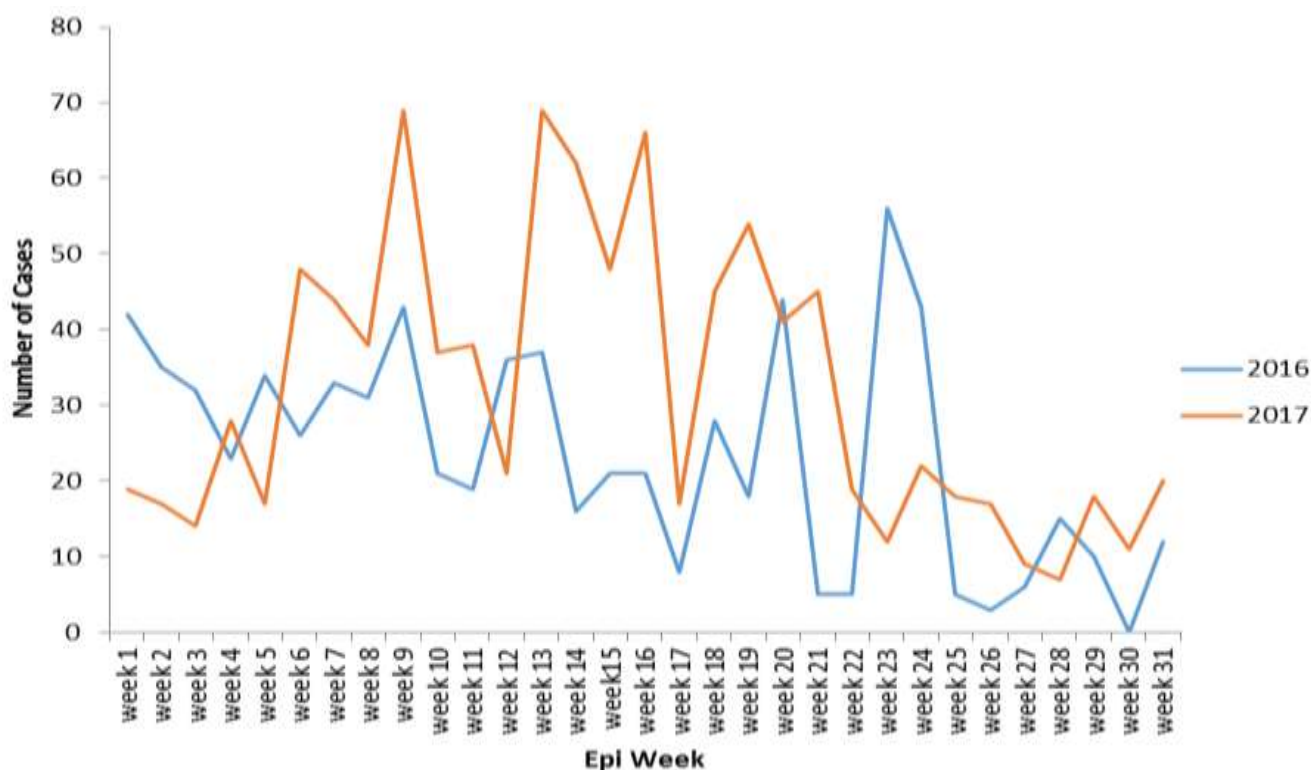
### Measles

- Twenty-one suspected cases were reported from Nimba (12), Bomi (1), Bong (1), Grand Bassa (1), Grand Kru (1), Margibi (1) Montserrado (1), Maryland (1) Grand Cape Mount and Rivercess (1), Counties
- Four confirmed case reported from Zoe Geh District, Nimba County (3), and Mamba Kaba District, Margibi (1) County
- Of the 21 suspected cases reported this week, 5 (24) were reported to have been previously vaccinated, 4 (19) not vaccinated and 12 (57%) had unknown vaccination status
- Six (29%) of the suspected cases were <5 years and fifteen (71%) were ≥5 years of age
- Cumulatively, since Epi week one, 999 suspected cases have been reported, of which 843 were tested: 138 (14%) positive, 664 (79%) negative and 41 (5%) equivocal and 6 pending. One hundred four-eight of the suspected cases were compatible and epi-linked. Of the 705 equivocal and negative cases, 608 (87%) samples have been tested for rubella, of which, 305 (50%) were positive

### Public Health Actions

- Active surveillance ongoing in Counties
- Samples were collected from 20 suspected cases and sent to the National Reference Laboratory for confirmation
- Case management initiated for all suspected cases

Figure 3. Comparison of Suspected Cases of Measles Reported, Liberia, Epi weeks 1 – 31, 2016 & 2017



### Acute Flaccid Paralysis (Suspected Polio)

- Zero cases of Acute Flaccid Paralysis were reported
- Cumulatively, since Epi week one, 68 AFP cases have been reported, of which, 61 (90%) have been tested negative for poliovirus and 7 (10%) are pending laboratory confirmation



## Neonatal Tetanus

- Zero cases of Neonatal tetanus were reported
- Cumulatively, since Epi week one, 10 clinically diagnosed cases have been reported

## Viral Hemorrhagic Diseases

### Ebola Virus Disease (EVD)

- Zero alerts of EVD were reported
- Cumulatively, since Epi week one, 307 EVD alerts have been reported, all of which have been tested negative

### Lassa fever

- Zero cases of Lassa fever were reported
- Cumulatively, since Epi week one, 37 suspected cases have been reported including seventeen deaths. Of the total cases, seven (7) have been confirmed positive by RT-PCR and ELISA-Antigen, 10 negative and 20 are pending Epi classification. The case fatality rate in confirmed cases is 57%

### Public Health Actions

- Active surveillance ongoing in counties

## Yellow fever

- One suspected case was reported from Bomi County
- Cumulatively, since Epi-week one, 132 suspected cases have been reported, 120 samples tested negative and 12 are pending laboratory confirmation. One case with date of onset in 2016 was confirmed positive for ELISA IgM, but PCR testing done in 2017 was negative

### Public Health Actions

- Specimen was collected from one suspected case and pending laboratory confirmation
- Active surveillance ongoing in counties

## Meningitis

- Zero suspected cases of meningitis were reported
- Cumulatively, since Epi week one, 15 suspected cases have been reported. An additional 31 cases (including 13 deaths) have been 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 and 3 alive)

## Events of Public Health Importance

### Maternal Mortality

- Five maternal deaths were reported from Montserrado (4) and Bong (1) Counties
- Reported causes of deaths were Septicemia (1), postpartum hemorrhage (2) and eclampsia (2)
- Four of the deaths were reported to have occurred in the health facility and one in the community
- Cumulatively, since Epi-week one, 159 maternal deaths have been reported (see Table 3 for causes of death)

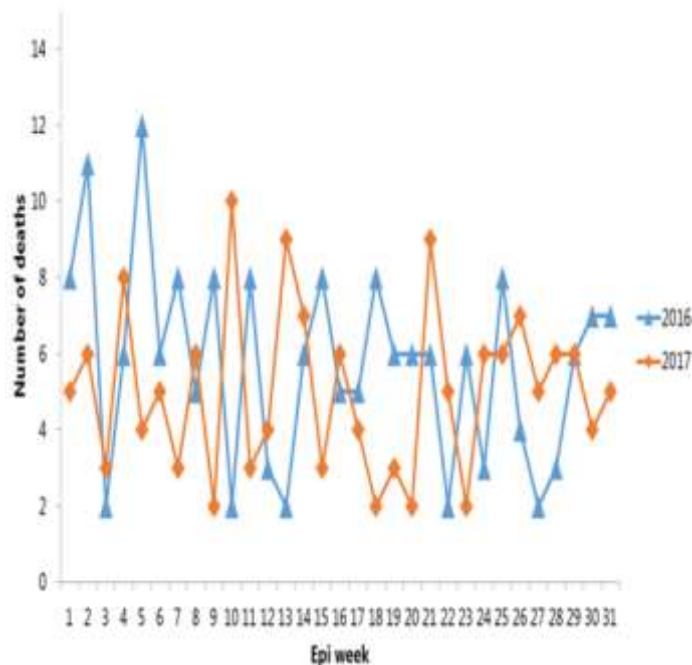


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**Figure 4. Comparison of the trend of Maternal Deaths Reported, Liberia, Epi weeks 1-31, 2016 & 2017**



**Table 3. Causes of Maternal Death, Liberia, Epi weeks 1-31, 2017 (n=159)**

Maternal Death	Number	Percentage
Post-partum hemorrhage	52	32.7
Sepsis	23	14.5
Anemia	22	13.9
Eclampsia	15	9.4
Ruptured uterus	7	4.4
Renal failure	6	3.8
Congestive heart failure	4	2.5
Cardiac pulmonary failure	6	3.8
Abruptio placenta	3	1.9
Unknown	7	4.4
Pre-eclampsia	4	2.5
Multiple organ failure	2	1.3
Obstructed labor	2	1.3
Disseminated 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
Prolonged labor	1	0.6
<b>Total</b>	<b>159</b>	<b>100</b>

**Table 5. Cumulative Maternal Deaths Reported by Counties, Liberia, Epi weeks 1-31, 2017**

County	Annual Live birth <sup>1</sup>	Current week	Cumulative Maternal deaths	% of Cumulative Maternal deaths	Annualized Maternal Mortality Ratio/ 100,000
Bomi	4361	0	8	6	596
Grand Bassa	11494	0	18	12	509
River Gee	3707	0	4	3	351
Grand Kru	3002	0	4	3	433
Sinoe	5308	0	7	5	429
Margibi	10883	0	13	8	388
Maryland	7048	0	8	6	369
Bong	17289	1	14	9	263
Montserrado	57974	4	42	26	235
Nimba	23953	0	19	13	258
Rivercess	3463	0	2	2	188
Lofa	14354	0	10	8	226
Grand Gedeh	6494	0	5	2	250
Gbarpolu	4323	0	4	3	301
Grand Cape Mount	6588	0	1	1	49
<b>Liberia</b>	<b>180242</b>	<b>5</b>	<b>159</b>	<b>100</b>	<b>287</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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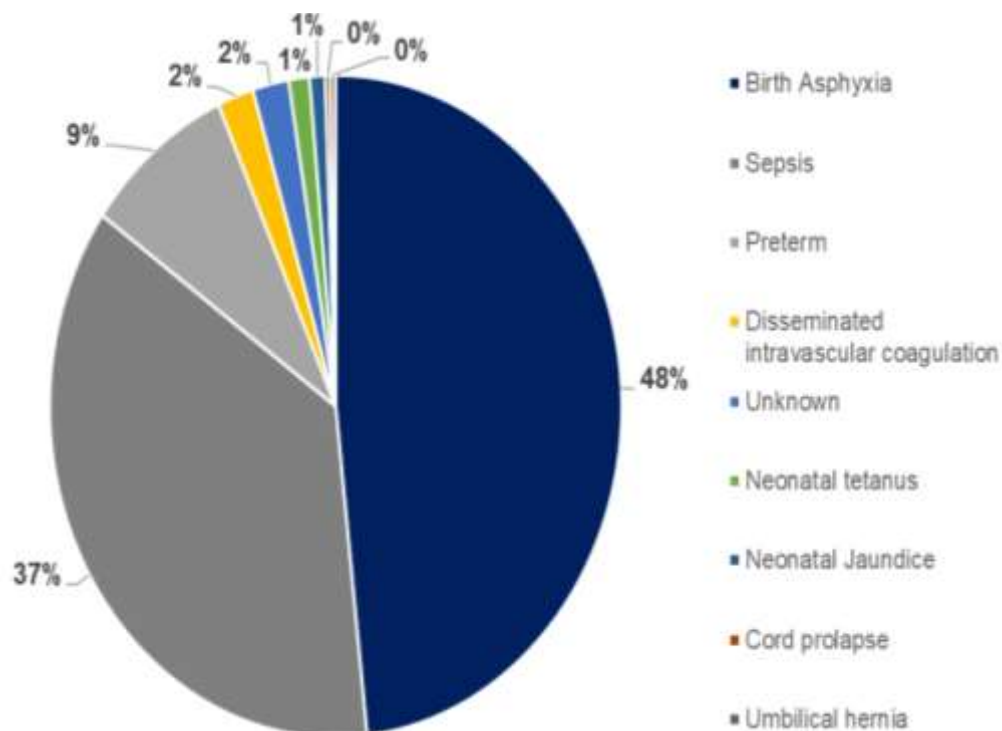


## Neonatal Mortality

Seven neonatal deaths were reported from Montserrado (4), River Gee (2) and Sinoe (1) Counties

- Reported causes of death were:
  - Birth asphyxia (3)
  - Neonatal sepsis (2)
  - Preterm (2)
- Six of the deaths were reported to have occurred at health facility and one in the community.
- Cumulatively, since Epi week one, 370 neonatal deaths have been reported

**Figure 5. Causes of Neonatal Death, Liberia, Epi weeks 1-31, 2017 (n=370)**



**Table 5. Cumulative Neonatal Deaths Reported by Counties, Liberia, Epi weeks 1-31, 2017**

County	Annual Live birth <sup>2</sup>	Current week	Cumulative Neonatal Deaths	% of Cumulative Neonatal Deaths	Annualized Neonatal Mortality Ratio/1,000
River Gee	3707	2	26	7	22.8
Maryland	7048	0	43	12	19.8
Sinoe	5308	1	21	6	12.9
Grand Kru	3002	0	11	3	11.9
Rivercess	3463	0	9	2	8.4
Bong	17289	0	38	10	7.1
Lofa	14354	0	35	10	7.9
Montserrado	57974	4	137	37	7.7
Grand Gedeh	6494	0	11	3	5.5
Gbarpolu	4323	0	3	2	2.3
Margibi	10883	0	9	2	2.7
Nimba	23953	0	14	4	1.9
Grand Bassa	11494	0	9	2	2.7
Bomi	4361	0	3	1	2.2
Grand Cape Mount	6588	0	1	1	0.5
<b>Liberia</b>	<b>180242</b>	<b>7</b>	<b>370</b>	<b>100</b>	<b>6.7</b>

<sup>2</sup> Number of live birth is at 4.3% of the estimated population for 2017 (Source: EPI/MoH)



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## **Human Exposure to Animal Bites (Suspected Rabies)**

- Eighteen cases of animal bites were reported from Montserrado (8), Bong (5), Grand Kru (2), Grand Bassa (1), Margibi (1) and Maryland (1) Counties
- Cumulatively, since Epi week one, 877 events of animal bites have been reported

## **Public Health Actions**

- Case management was initiated for all cases of animal bites

## **Bloody Diarrhea (Shigellosis)**

- Five cases of bloody diarrhea were reported from Bong (1), Margibi (1), Montserrado (1), Grand Kru (1) and Sinoe (1) Counties
- Cumulatively, since Epi week one, 158 cases of bloody diarrhea have been reported, of which 5 (3%) were confirmed positive for shigella, 55 (35%) were negative and 81 (51%) are pending laboratory testing

## **Severe Acute Watery Diarrhea (Cholera)**

- Two suspected cases of cholera were reported from Bomi (1) and Grand Kru (1) Counties
- Cumulatively, since Epi week one, 122 suspected cases of cholera have been reported, including 4 deaths attributable to cholera. Of the 42 samples collected, 2 (5%) were confirmed positive, 35 (88 %) tested negative and 5 pending

## **Outbreaks or Rumors**

- On the 3<sup>rd</sup> and 4<sup>th</sup> of August, six suspected cases of Measles were reported from Zoe-Geh Medical Center. The results received from the National Reference Laboratory confirmed three of the suspected cases.
- The confirmed cases age range from nine months to two years old. Two of the children vaccination status were unknown and one not vaccinated.
- The index case is a two years old male from Mahnplay (a catchment community of Zoe-Geh Medical Center)
- A team comprising of the County Child Survival Focal Person, Zoe-Geh District Surveillance Officer along with WHO has been dispatched to the affected community for further investigation and response.

## **Public Health Measures**

### **National level**

- eIDSR health facility training in Grand Cape Mount County
- National Reference Laboratory has received samples of cases from the Counties and are being processed for analysis
- 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)
- Implementation of an Auto Visual AFP detection and reporting (AVADAR) surveillance in 4 districts 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





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## 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
- *Annualized neonatal mortality rate* refers to the neonatal mortality ratio of a given period less than one year and it is the number of neonatal 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 31 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	
			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	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0
Bong	8	8	0	0	1	0	0	0	5	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0
Gbarpolu	5	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Bassa	8	8	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Cape Mount	5	5	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Gedeh	6	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Kru	5	5	0	0	1	0	1	0	2	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
Lofa	6	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Margibi	4	4	0	0	1	0	0	0	1	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	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
Montserrado	7	7	0	0	1	0	0	0	8	0	0	0	1	0	0	0	4	4	0	0	0	0	0	0	0	0
Nimba	6	6	0	0	0	0	0	0	0	0	0	0	12	0	0	0	0	0	0	0	0	0	0	0	0	0
Rivercess	6	6	0	0	0	0	0	0	0	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	0	0	0	0	1	0	0	0	0	2	0	0	0	0	0	0	0	0
Sinoe	10	10	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	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>5</b>	<b>0</b>	<b>2</b>	<b>0</b>	<b>18</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>21</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>5</b>	<b>7</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>0</b>
<b>Cumulative Reported</b>			<b>68</b>	<b>0</b>	<b>159</b>	<b>0</b>	<b>122</b>	<b>5</b>	<b>877</b>	<b>1</b>	<b>20</b>	<b>17</b>	<b>999</b>	<b>2</b>	<b>13</b>	<b>2</b>	<b>159</b>	<b>370</b>	<b>8</b>	<b>2</b>	<b>32</b>	<b>271</b>	<b>131</b>	<b>1</b>	<b>1794</b>	<b>23</b>
<b>Cumulative Laboratory Confirmed</b>			<b>0</b>	<b>0</b>	<b>5</b>	<b>0</b>	<b>2</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>3</b>	<b>4</b>	<b>138</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

**Editorial Team - MoH:** Roseline N. George – Deputy Director/DPC; Advertus N. Mianah – Surveillance Coordinator/DPC; Irene Pewu & Himiede W. Wilson – Epidemiologist/DIDE; Sumo Nuwolo, Musand Kromah, Lasee W. Colee, T. Lafayette Hall, Alberta B. Corvah, Sumor Flomo & Samuel Zayzay – Disease Investigators/DIDE; Trokon O. Yeabah – Data Manager/DIDE; Patrick Hardy – NRL/NPHIL; **Partners:** Dr. E. Kainne Dokubo, & Carl Kinkade – CDC; George Sie Williams, Kwakuan D.M. Yealue & Jeremy Sesay – WHO



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**For comments or questions, please contact**

**Thomas K. Nagbe**, PA Dip., BSc, MPH  
Director, Infectious Disease and Epidemiology Division  
National IHR Focal Person  
National Public Health Institute of Liberia  
Republic of Liberia  
Email: [tnknue31112@gmail.com](mailto:tnknue31112@gmail.com)  
Phone: 0886 937386/0777442444  
Website: [www.moh.gov.lr](http://www.moh.gov.lr)