



Liberia IDSR Epidemiology Bulletin

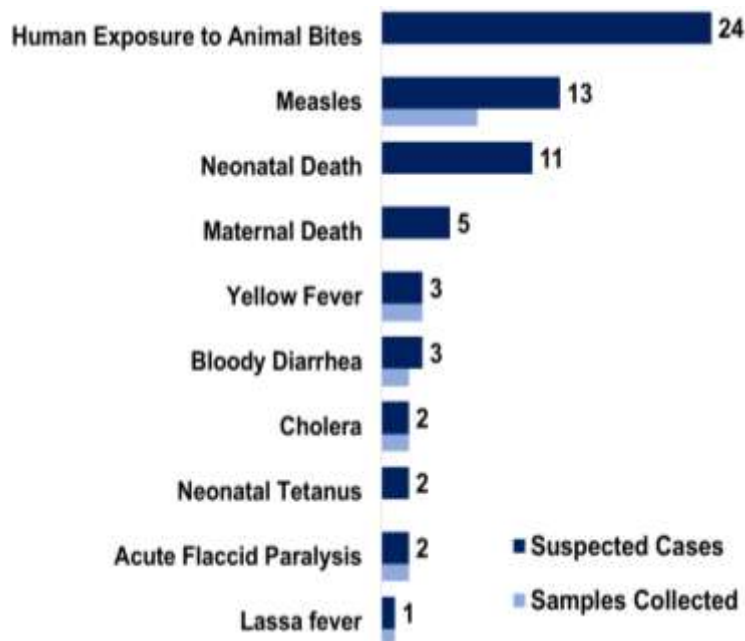
2017 Epi Week 33 (Aug 14-20, 2017)



Country Population: 4,373,279 | Volume 09, Issue 33 Aug. 14 – 20, 2017 | Data Source: CSOs from 15 Counties and Lab

Highlights

Figure 1. Public Health Events Reported in Epi-week 33



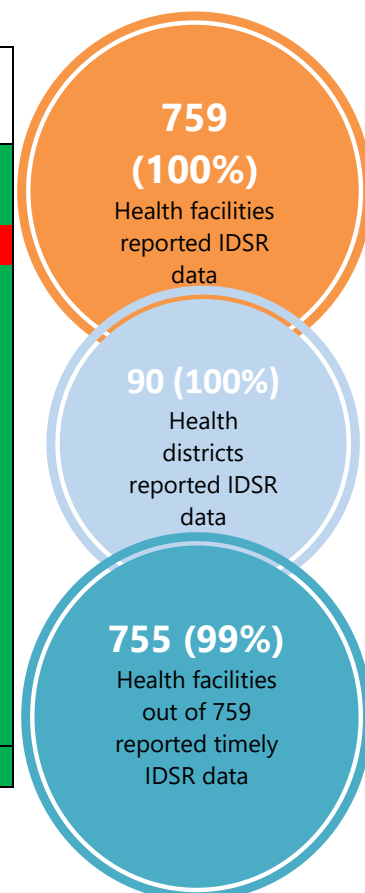
Keynotes and Events of Public Health Significance

- A total of sixty-six suspected cases of immediately reportable diseases and events with 17 deaths were reported from 15 counties
- Hundred percent (100%) reporting for completeness and 99% reporting for timeliness from health facilities respectively
- Two confirmed cases of Measles were reported from Nimba
- One suspected Lassa fever death was reported from Nimba County

Reporting Coverage

Table 1. Weekly IDSR Reporting Coverage, Liberia, Epi week 33, 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	55	55	100	100
Gbarpolu	15	15	11	100	73
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	44	100	100
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
Liberia	759	759	755	100	99



Legend

≥80

<80

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



Liberia IDSR Epidemiology Bulletin

2017 Epi Week 33 (Aug 14-20, 2017)



Vaccine Preventable Diseases

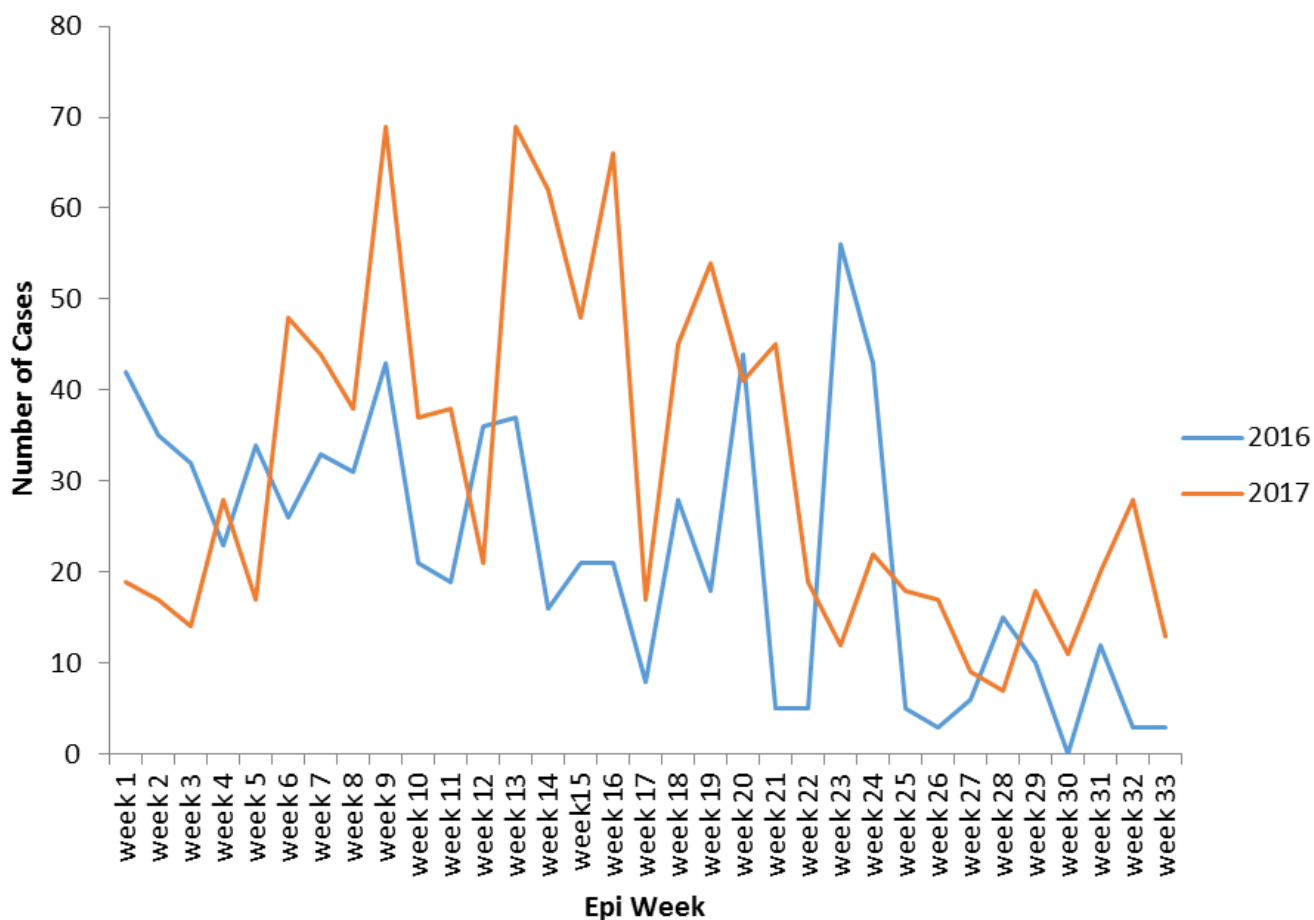
Measles

- Thirteen suspected cases were reported from Nimba (6), Bomi (2), Montserrado (2), River Gee (1), Margibi (1) and Sinoe (1) Counties
- Of the six cases reported from Nimba, four were epi-linked to the current outbreak in Zoe Geh District while the other two were confirmed cases from Sanniquellie Mah district
- Of the (11) suspected cases reported this week, 3 (27%) were reported to have been previously vaccinated and 7 (63%) had unknown vaccination status and 1 (9%) not vaccinated
- Two (18%) of the suspected cases were <5 years and nine (82%) were ≥5 years of age
- Cumulatively, since Epi week one, 1,040 suspected cases have been reported, of which 871 were tested: 145 (17%) positive, 680 (78%) negative, 46 (5%) equivocal and 23 pending. One hundred four-eight of the suspected cases were compatible and epi-linked. Of the 726 equivocal and negative cases, 613 (84%) samples have been tested for rubella, of which, 310 (43%) were positive

Public Health Actions

- Active surveillance ongoing in Counties
- Samples were collected from five 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 – 33, 2016 & 2017





Liberia IDSR Epidemiology Bulletin

2017 Epi Week 33 (Aug 14-20, 2017)



Acute Flaccid Paralysis (Suspected Polio)

- Two cases of Acute Flaccid Paralysis were reported from Bong (1) and Nimba (1) Counties
- 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

Public Health Actions

- Samples were collected from the two cases reported and sent to laboratory for confirmation
- Active surveillance ongoing in all fifteen (15) counties

Table 2: Non-polio AFP Rate/100,000 <15years, Liberia, Epi weeks 1 - 33, 2017

County	<15 years pop	# of AFP Cases Reported	# of Cases with Lab Result	Non-Polio AFP Rate	# of cases <14 days specimen collected	% of stool <14days	# of NPENTs	% of NPENT
Bomi	45639	4	4	13.8	4	100	1	25
Bong	180932	5	4	4.4	5	100	0	0
Gbarpolu	45243	-	-	-	-	-	-	-
Grand Bassa	120281	2	2	2.6	1	50	2	100
Grand Cape Mount	68945	2	2	4.6	2	100	0	0
Grand Gedeh	67959	4	4	9.3	4	100	2	50
Grand Kru	31421	1	1	5.0	0	0	0	0
Lofa	150214	9	9	9.4	8	89	1	11
Margibi	113895	8	8	11.1	8	100	2	25
Maryland	73754	2	2	4.3	1	50	0	0
Montserrado	606708	12	12	3.1	6	50	1	8
Nimba	250675	8	7	4.4	8	100	1	14
Rivercess	36237	6	6	26.1	5	83	3	50
River-Gee	38798	3	3	12.2	1	33	2	67
Sinoe	55553	4	4	11.3	3	75	0	0
Liberia	1886254	70	68	5.8	56	80	15	22
Non-Polio AFP Rate	<2	Stool Adequacy		<80%	Non-Polio Enterovirus	<10%	Silent	
	≥2			≥80%		≥10%		

Neonatal Tetanus

- Two cases of Neonatal tetanus were reported from River Gee County
- Cumulatively, since Epi week one, 12 clinically diagnosed cases have been reported

Viral Hemorrhagic Diseases

Ebola Virus Disease (EVD)

- Zero alerts of EVD were reported
- Cumulatively, since Epi week one, 303 EVD alerts have been reported, all of which have been tested negative

Lassa fever

- One suspected death of Lassa fever was reported from Nimba County
- Cumulatively, since Epi week one, 38 suspected cases have been reported including eighteen deaths. Of the total cases, seven (7) have been confirmed positive by RT-PCR and ELISA-Antigen, 10 negative and 21 are pending Epi classification. The case fatality rate in confirmed cases is 57%

Public Health Actions

- Five contacts were listed and undergoing daily follow up
- Active surveillance ongoing in counties



Liberia IDSR Epidemiology Bulletin

2017 Epi Week 33 (Aug 14-20, 2017)



Yellow fever

- Three suspected cases were reported from Grand Kru County
- Cumulatively, since Epi-week one, 136 suspected cases have been reported, 120 samples tested negative and 13 are pending laboratory confirmation.

Public Health Actions

- Specimen was collected from the three suspected cases 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 Nimba (2) Bong (1), Grand Gedeh (1) and Lofa (1) Counties
- Reported causes of deaths were: postpartum hemorrhage (2), eclampsia (2) and sepsis (1)
- All of the deaths were reported to have occurred in the health facility
- Cumulatively, since Epi-week one, 168 maternal deaths have been reported (see Table 3 for causes of death)

Figure 4. Comparison of the trend of Maternal Deaths Reported, Liberia, Epi weeks 1 - 33, 2016 & 2017

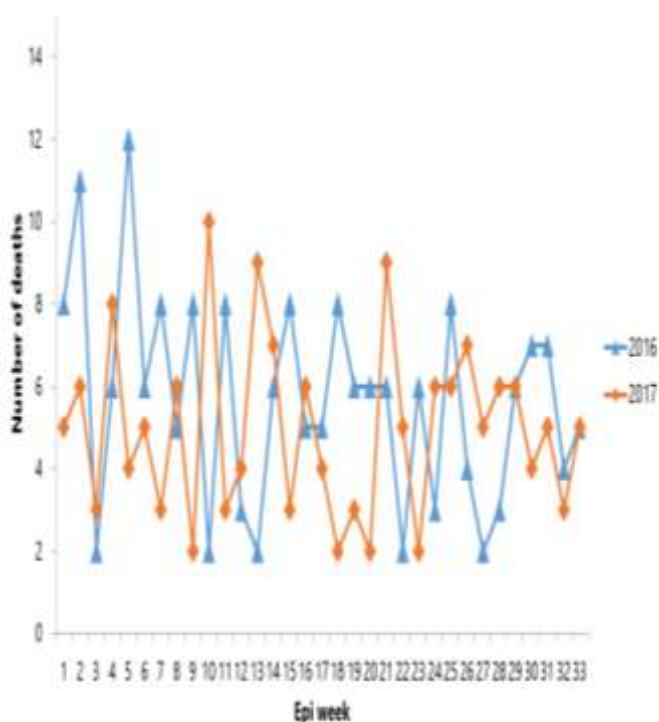


Table 3. Causes of Maternal Death, Liberia, Epi weeks 1 - 33, 2017 (n=168)

Maternal Death	Number	Percentage
Post-partum hemorrhage	57	33.9
Sepsis	24	14.3
Anemia	22	13.1
Eclampsia	17	10.1
Ruptured uterus	7	4.2
Unknown	7	4.2
Renal failure	6	3.6
Cardiac pulmonary failure	6	3.6
Congestive Heart failure	4	2.4
Pre-eclampsia	4	2.4
Abruptio placenta	3	1.8
Multiple organ failure	2	1.2
Obstructed labor	2	1.2
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
Total	168	100



Liberia IDSR Epidemiology Bulletin

2017 Epi Week 33 (Aug 14-20, 2017)



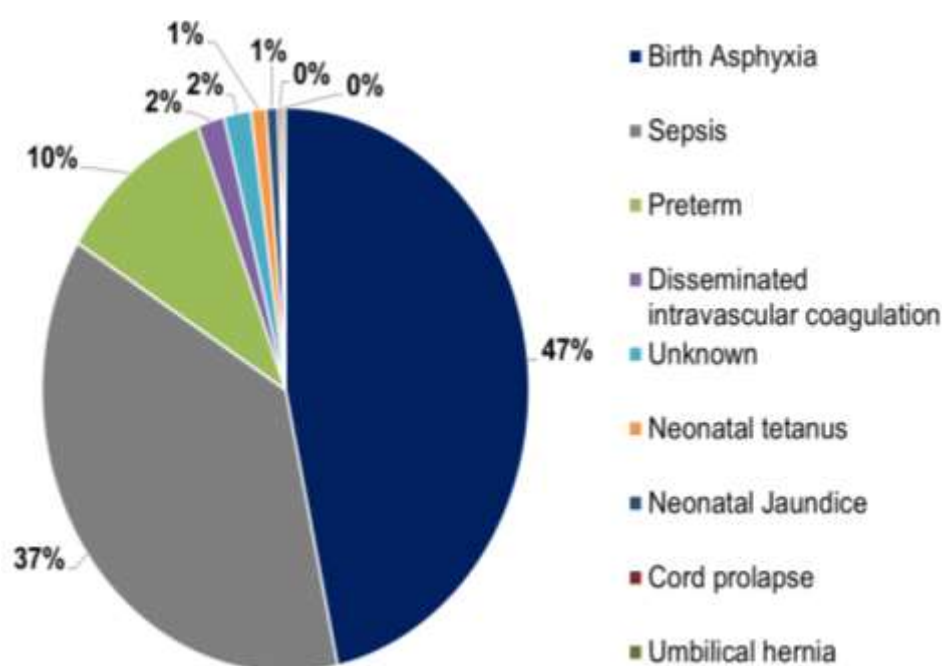
Table 5. Cumulative Maternal Deaths Reported by Counties, Liberia, Epi weeks 1 - 33, 2017

County	Annual Live birth ¹	Current week	Cumulative Maternal deaths	% of Cumulative Maternal deaths	Annualized Maternal Mortality Ratio/ 100,000
Bomi	4361	0	8	5	596
Grand Bassa	11494	0	18	11	509
Grand Kru	3002	0	5	3	433
Sinoe	5308	0	7	5	429
Margibi	10883	0	13	8	388
Maryland	7048	0	8	6	369
River Gee	3707	0	4	2	351
Bong	17289	1	17	10	301
Gbarpolu	4323	0	4	2	301
Grand Gedeh	6494	1	7	2	300
Nimba	23953	2	21	13	258
Montserrado	57974	0	42	26	235
Lofa	14354	1	11	8	226
Rivercess	3463	0	2	1	188
Grand Cape Mount	6588	0	1	1	49
Liberia	180242	5	168	100	292

Neonatal Mortality

- Eleven neonatal deaths were report from Montserrado (4), Grand Gedeh (3), Maryland (2), RiverGee (1), and Grand Cape Mount (1) Counties
- Reported causes of death were:
 - Neonatal sepsis (5)
 - Birth asphyxia (5)
 - Preterm (1)
- Nine deaths were reported to have occurred at health facility while two occurred in the community
- Cumulatively, since Epi week one, 393 neonatal deaths have been reported

Figure 5. Causes of Neonatal Death, Liberia, Epi weeks 1 - 33, 2017 (n=393)



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



Liberia IDSR Epidemiology Bulletin

2017 Epi Week 33 (Aug 14-20, 2017)



Table 5. Cumulative Neonatal Deaths Reported by Counties, Liberia, Epi weeks 1 - 33 2017

County	Annual Live birth ²	Current week	Cumulative Neonatal Deaths	% of Cumulative Neonatal Deaths	Annualized Neonatal Mortality Ratio/1,000
River Gee	3707	1	27	7	22.8
Maryland	7048	2	46	11	19.8
Sinoe	5308	0	21	5	12.9
Grand Kru	3002	0	11	3	11.9
Lofa	14354	0	38	10	8.6
Rivercess	3463	0	9	2	8.4
Montserrado	57974	4	141	36	7.8
Bong	17289	0	40	10	7.5
Grand Gedeh	6494	3	16	3	6.0
Margibi	10883	0	11	3	3.3
Gbarpolu	4323	0	4	1	3.0
Grand Bassa	11494	0	10	3	2.8
Bomi	4361	0	3	1	2.2
Nimba	23953	0	14	4	1.9
Grand Cape Mount	6588	1	2	0	0.5
Liberia	180242	11	393	100	6.9

Human Exposure to Animal Bites (Suspected Rabies)

- Twenty-four cases of animal bites were reported from Montserrado (6), Rivercess (4), Bong (3), Grand Bassa (2), Lofa (2), Maryland (2), Grand Gedeh (1), Grand Cape Mount (1), Nimba (1), Margibi (1) and River Gee (1) Counties
- Cumulatively, since Epi week one, 913 events of animal bites have been reported

Public Health Actions

- Case management was initiated for all cases of animal bites

Bloody Diarrhea (Shigellosis)

- Three cases of bloody diarrhea were reported from Montserrado (1), Margibi(1) and Grand Bassa (1) Counties
- Cumulatively, since Epi week one, 168 cases of bloody diarrhea have been reported, of which 5 (3%) were confirmed positive for shigella, 55 (33%) were negative and 92 (55%) are pending laboratory testing

Severe Acute Watery Diarrhea (Cholera)

- Two suspected cases of cholera were reported from Grand Bassa (1) and Sinoe Counties
- Cumulatively, since Epi week one, 124 suspected cases of cholera have been reported, including 4 deaths attributable to cholera. Of the 44 samples collected, 2 (5%) were confirmed positive, 35 (80 %) tested negative and 7 pending

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



Liberia IDSR Epidemiology Bulletin

2017 Epi Week 33 (Aug 14-20, 2017)



Public Health Measures

National level

- Trained and Certified 29 participants in Basic Data Science
- 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

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 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



Liberia IDSR Epidemiology Bulletin

2017 Epi Week 33 (Aug 14-20, 2017)



Appendix 1: Summary of immediately reportable diseases, conditions, and events by County during Epi week 33 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	A
Bomi	4	4	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Bong	8	8	1	0	0	0	0	0	3	0	0	0	0	0	0	0	1	0	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	0
Grand Bassa	8	8	0	0	1	0	1	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Cape Mount	5	5	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
Grand Gedeh	6	6	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	3	0	0	0	0	0	0	0	0	0
Grand Kru	5	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0
Lofa	6	6	0	0	0	0	0	0	2	0	0	0	0	0	0	0	1	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	0
Maryland	6	6	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0
Montserrado	7	7	0	0	1	0	0	0	6	0	0	0	2	0	0	0	0	4	0	0	0	0	0	0	0	0	0
Nimba	6	6	1	0	0	0	0	0	1	0	0	1	6	0	0	0	2	0	0	0	0	0	0	0	0	0	0
Rivercess	6	6	0	0	0	0	0	0	4	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	1	0	0	0	1	0	0	0	0	1	2	0	0	0	0	0	0	0	0
Sinoe	10	10	0	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Weekly	90	90	2	0	3	0	2	0	24	0	0	1	13	0	0	0	5	11	2	0	0	0	3	0	0	0	0
Cumulative Reported			70	0	168	0	124	5	913	1	20	18	1040	2	13	2	168	393	10	2	32	271	136	1	1800	23	
Cumulative Laboratory Confirmed			0	0	5	0	2	0	0	0	3	4	145	0	0	0			0	0	0	0	0	0	0	0	0

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

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