



Liberia IDSR Epidemiology Bulletin

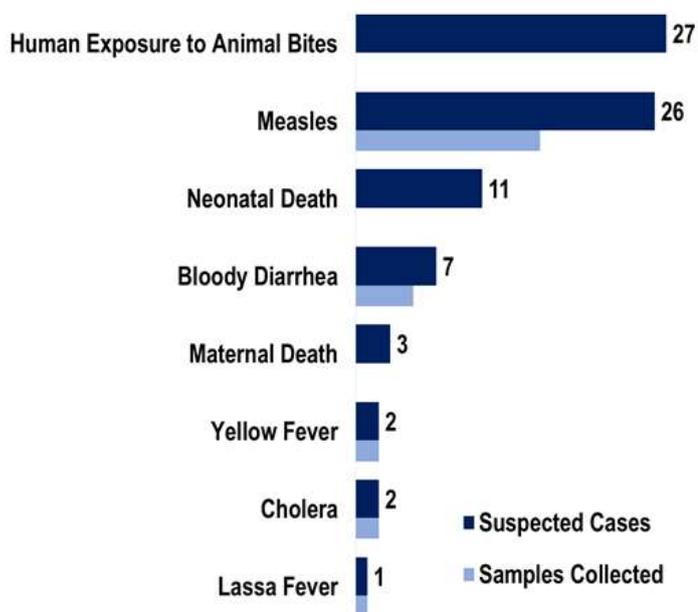
2017 Epi Week 37 (Sept. 11-17, 2017)



Country Population: 4,373,279 | Volume 09, Issue 37 Sept. 11 – 17, 2017 | Data Source: CSOs from 15 Counties and Lab

Highlights

Figure 1. Public Health Events Reported in Epi-week 37



Keynotes and Events of Public Health Significance

- A total of **seventy-nine suspected cases** of immediately reportable diseases and events including 14 deaths were reported from 15 counties
- Health Facility reporting completeness during the week is **Ninety-eight percent (98%)** and timeliness is **Ninety-Five Percent (95%)**
- **Measles epidemic threshold reached** in two counties
 - Seven cases in Suakoko district, Bong County
 - Four cases in Sanniquellie district, Nimba County
- National **IDSR Supervision commences** in seven counties

Reporting Coverage

Table 1. Weekly IDSR Reporting Coverage, Liberia, Epi week 37, 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	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	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	0	100	0
Liberia (National)	759	758	723	98	95

723 (95%)
Health facilities out of 759 reported timely IDSR data

91 (100%)
Health districts reported IDSR data

758 (98%)
Health facilities reported IDSR data

Legend	≥80	<80

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



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Vaccine Preventable Diseases

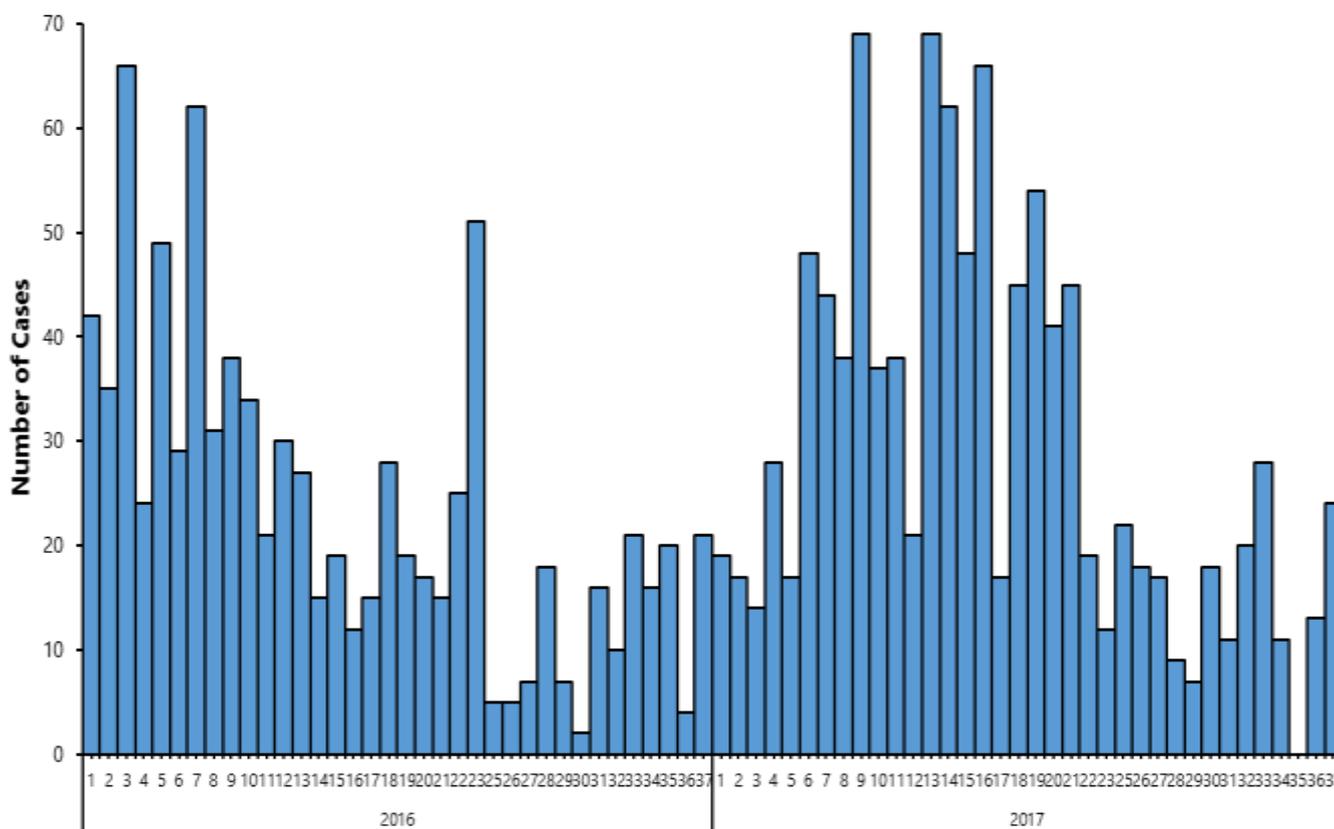
Measles

- Twenty-six suspected cases were reported from Bong (9), Montserrado (5), Nimba (5), Grand Kru (2), Sinoe (2), Lofa (1), Margibi (1) and Grand Bassa (1) Counties
- Of the 26 suspected cases reported this week, 8 (31%) were reported to have been previously vaccinated, 14 (53%) had unknown vaccination status and 4 (15%) were not vaccinated
- Eleven (42%) of the suspected cases were <5 years and 15 (58%) were ≥5 years of age
- Cumulatively, since Epi week one, 1,089 suspected cases have been reported, of which 924 were tested: 155 (16.8%) positive, 719 (77.8%) negative, 50 (5.4%) equivocal. One hundred sixty-five of the suspected cases were compatible and epi-linked. Of the total 769 equivocal and negative cases, 746 (97%) samples have been tested for rubella, of which, 318 (42.6%) were positive

Public Health Actions

- Case management have been initiated for all suspected cases
- Samples were collected from 17 suspected cases and sent to the National Reference Laboratory for confirmation
- Active case search has been initiated in communities in which epidemic threshold has been reached

Figure 3. Weekly trend of suspected cases of Measles reported, Liberia, Epi weeks 1 – 37, 2016 & 2017



Acute Flaccid Paralysis (Suspected Polio)

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



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Neonatal Tetanus

- Zero cases of Neonatal tetanus were reported during the week
- Cumulatively, since Epi-week one, 13 clinically diagnosed cases have been reported

Viral Hemorrhagic Diseases

Ebola Virus Disease (EVD)

- Zero EVD alerts were reported during the week.
- Cumulatively, since Epi-week one, 305 EVD alerts have been reported, all of which have tested negative by PCR.

Lassa fever

- One suspected case of Lassa Fever was reported from Grand Bassa County. Blood sample has been collected, sent to the National Reference Laboratory, and results are awaited
- Cumulatively, since Epi week one, 41 suspected cases have been reported, and samples were collected from all cases
- Of the 41 samples, 7 have been confirmed positive by RT-PCR and ELISA-Antigen and 10 are negatives
- Of the 7 confirmed cases, 4 deaths were reported. The case fatality rate among confirmed cases is 57%.

Yellow fever

- Two suspected cases were reported from Grand Gedeh County
- Samples were collected from the two suspected cases, sent to the National Reference laboratory, and results are awaited.
- Cumulatively, since Epi-week one, 143 suspected cases have been reported, all of which tested negative.

Meningitis

- Zero suspected cases of meningitis were reported during the week.
- 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

- Three maternal deaths were reported from Montserrado (1), River Gee (1) and Grand Gedeh (1) Counties
- Reported causes of deaths were: Postpartum hemorrhage, Eclampsia, and Acute Asthmatic attack
- All of the deaths were reported to have occurred in the health facility.
- Cumulatively, since Epi-week one, 178 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 - 37, 2016 & 2017

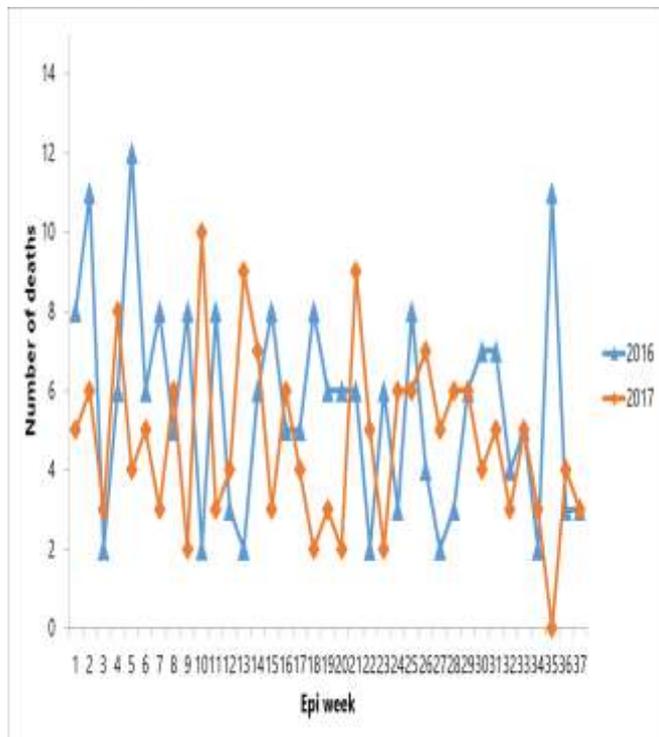


Table 3. Causes of Maternal Death, Liberia, Epi weeks 1 - 37, 2017 (n=178)

Maternal Death	Number	Percentage
Post-partum hemorrhage	61	34.3
Anemia	25	14.3
Sepsis	24	13.7
Eclampsia	19	11
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
Abruptio 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	2	1.1
Umbilical Hernia (Omphalocele)	1	0.6
Spinal shock	1	0.6
Prolong Labour	1	0.6
Hepatitis B	1	0.6
Total	178	100

Table 5. Cumulative Maternal Deaths Reported by Counties, Liberia, Epi weeks 1 - 37, 2017

County	Annual Live birth ¹	Current week	Cumulative	% of Cumulative Maternal deaths	Annualized Maternal Mortality Ratio/100,000
Grand Bassa	11494	37	21	12	594
Maryland	7048	37	8	6	369
Bomi	4361	37	8	5	596
Grand Kru	3002	37	6	3	649
Sinoe	5308	37	7	5	429
River Gee	3707	37	5	3	438
Montserrado	57974	37	44	25	247
Bong	17289	37	19	11	357
Margibi	10883	37	13	7	388
Nimba	23953	37	21	13	285
Lofa	14354	37	11	8	249
Rivercess	3463	37	2	1	188
Gbarpolu	4323	37	4	2	301
Grand Cape Mount	6588	37	1	1	49
Grand Gedeh	6494	37	8	2	400
Liberia	180242	37	178	100	321

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



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Neonatal Mortality

Eleven neonatal deaths were reported from Lofa (3), Montserrado (2), River Gee (2), Rivercess (1), Bong (1), Sinoe (1) and Grand Bassa (1) Counties

- Reported causes of death were:
 - Preterm (3)
 - Respiratory Distress (2)
 - Birth asphyxia (2)
 - Neonatal sepsis (1)
 - Neonatal tetanus (1)
 - Anemia (1)
- Ten deaths were reported to have occurred at health facility and one in the community
- Cumulatively, since Epi-week one, 423 neonatal deaths have been reported.

Figure 5. Causes of Neonatal Death, Liberia, Epi weeks 1 - 37, 2017 (n=423)

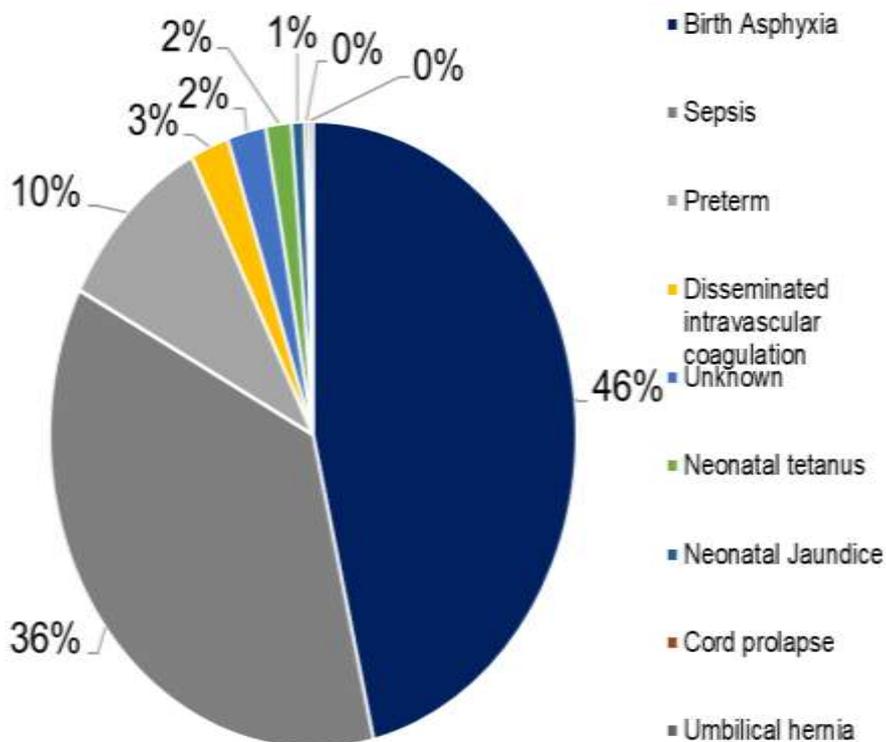


Table 5. Cumulative Neonatal Deaths Reported by Counties, Liberia, Epi weeks 1 - 37 2017

County	Annual Live birth	Current Week	Cumulative Neonatal deaths	% of Cumulative Neonatal deaths	Annualized Neonatal Mortality Rate/1000
River Gee	3707	37	30	7	26.3
Maryland	7048	37	47	11	21.7
Sinoe	5308	37	23	5	14.1
Grand Kru	3002	37	11	3	11.9
Montserrado	57974	37	149	36	8.4
Bong	17289	37	42	10	7.9
Rivercess	3463	37	12	3	11.3
Grand Gedeh	6494	37	16	4	8.0
Gbarpolu	4323	37	5	1	3.8
Grand Bassa	11494	37	14	3	4.0
Lofa	14354	37	43	10	9.7
Nimba	23953	37	14	3	1.9
Margibi	10883	37	12	3	3.6
Grand Cape Mount	6588	37	2	0	1.0
Bomi	4361	37	3	1	2.2
Liberia	180242	37	423	100	7.6



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Human Exposure to Animal Bites (Suspected Rabies)

- Twenty-seven cases of animal bites were reported from Grand Bassa (6), Montserrado (5), Nimba (3), Bong (3), Cape Mount (3), River Gee (2), Rivercess (2), Margibi (2) and Maryland (1) Counties
- Cumulatively, since Epi-week one, 991 cases of animal bites have been reported.

Bloody Diarrhea (Shigellosis)

- Seven cases of bloody diarrhea were reported from Margibi (3), Sinoe (2), and Gbarpolu (2) Counties.
- Cumulatively, since Epi-week one, 191 cases of bloody diarrhea have been reported.
- Stool specimens have been collected from a total of 88 cases including 7 in the current week
- A total of 78 samples have been tested, 4 rejected due to poor sample quality, and 6 pending laboratory testing. Of the 78 tested, shigella was isolated through culture from 14 (17.9%) samples and no growth seen in 64 (82.1%) of the samples.

Severe Acute Watery Diarrhea (Cholera)

- Two suspected cases of cholera were reported from Montserrado County; stool specimens were collected from both cases
- Cumulatively, since Epi-week one, 131 suspected cases of cholera have been reported, including 4 deaths attributable to cholera.
- A total of 50 stool samples have been collected including two in the current week and sent to the National Reference Laboratory. Of these, 37 samples have been tested and 13 are pending. *Vibrio cholera* has been isolated from two of the samples while there have been no growth in 35 samples.

Public Health Measures

National level

- Liberia Intermediate Field Epidemiology Training Program workshop 4, of cohort 1 is ongoing
- National IDSR Supportive Supervision commences in 7 counties (Montserrado, Sinoe, Rivercess, RiverGee, Grand Gedeh, Grand Kru and Maryland). A two-member national team has been deployed in each county along with WHO field team. They are expected to focus on Emergency Operations Centers (EOCs) in each county, Points of Entry (POEs) surveillance, community, health facility, district, and county levels IDSR implementation activities.
- 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)
- 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 prepositioning

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



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- *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 37 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 ⁰	
			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	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Bong	8	8	0	0	0	0	0	0	3	0	0	0	9	0	0	0	0	1	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	0	0	0	0	0	0	0	0	0
Grand Bassa	8	8	0	0	0	0	0	0	6	0	1	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0
Grand Cape Mount	5	5	0	0	0	0	0	0	3	0	0	0	0	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	1	0	0	0	0	0	2	0	0	0
Grand Kru	5	5	0	0	0	0	0	0	0	0	0	0	2	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	1	0	0	0	0	3	0	0	0	0	0	0	0	0
Margibi	4	4	0	0	3	0	0	0	2	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	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Montserrado	7	7	0	0	0	0	2	0	5	0	0	0	5	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	5	0	0	0	0	0	0	0	0	0	0	0	0	0
Rivercess	6	6	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
River Gee	4	4	0	0	0	0	0	0	2	0	0	0	0	0	0	0	1	2	0	0	0	0	0	0	0	0
Sinoe	10	10	0	0	2	0	0	0	0	0	0	0	2	0	0	0	0	1	0	0	0	0	0	0	0	0
Total Weekly	91	91	0	0	7	0	2	0	27	0	1	0	26	0	0	0	3	11	0	0	0	0	2	0	0	0
Cumulative Reported			70	0	191	0	130	5	991	1	23	18	1090	2	14	2	178	423	11	2	33	272	142	1	1803	23
Cumulative Laboratory Confirmed			0	0	6	0	2	0	0	0	3	4	155	0	0	0			0	0	0	0	0	0	0	0

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

Editorial Team - MoH: Roseline N. George – Deputy Director/DIDE; Advertus N. Mianah – Surveillance Coordinator/DIDE; 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, Kwaku D.M. Yealue & Jeremy Sesay – WHO

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
Phone: 0886 937386/0777442444
Website: www.moh.gov.lr