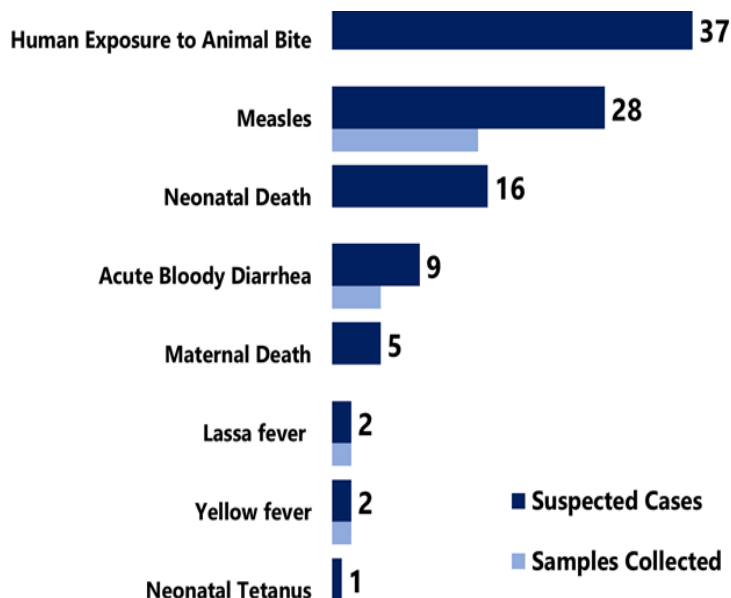


Highlights

Figure 1. Public Health Events Reported in Epi week 32



Keynotes and Events of Public Health Significance

- A total of **100** suspected cases of immediately reportable disease and events including **24** deaths were reported
- Completeness and timeliness of health facility reports were **65%** and **61%** respectively
- One confirmed case of shigellosis reported from Gbarpolu County
- Ongoing measles outbreak in Todee district, Montserrado County

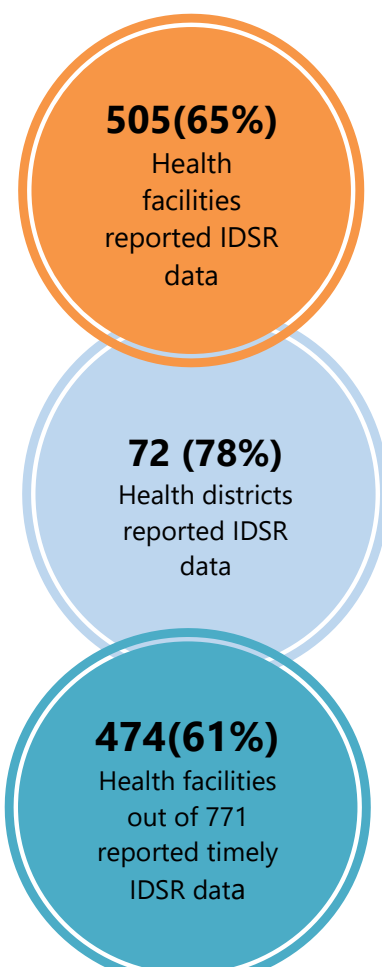
Reporting Coverage

Table 1. Weekly IDSR Reporting Coverage, Liberia, Epi week 32, 2018

County	Number of Expected Report from Health Facility	Number of Reports Received	Number Received on Time	Completeness (%)	Timeliness (%)
Bomi	26	1	1	4	4
Bong	55	16	16	29	29
Gbarpolu	16	7	7	44	44
Grand Bassa	33	25	25	76	76
Grand Cape Mount	34	10	10	29	29
Grand Gedeh	24	8	8	33	33
Grand Kru	19	10	8	53	42
Lofa	59	48	48	81	81
Margibi	50	29	29	58	58
Maryland	25	25	25	100	100
Montserrado	283	217	217	77	77
Nimba	74	57	28	77	38
Rivercess	19	9	9	47	47
River Gee	19	8	8	42	42
Sinoe	35	35	35	100	100
Liberia	771	508	474	65	61

Legend	≥80	<80

- Fourteen out of the fifteen counties submitted weekly IDSR report on time to national level
- Nimba County reported late
- The national target for weekly IDSR reporting is 80%



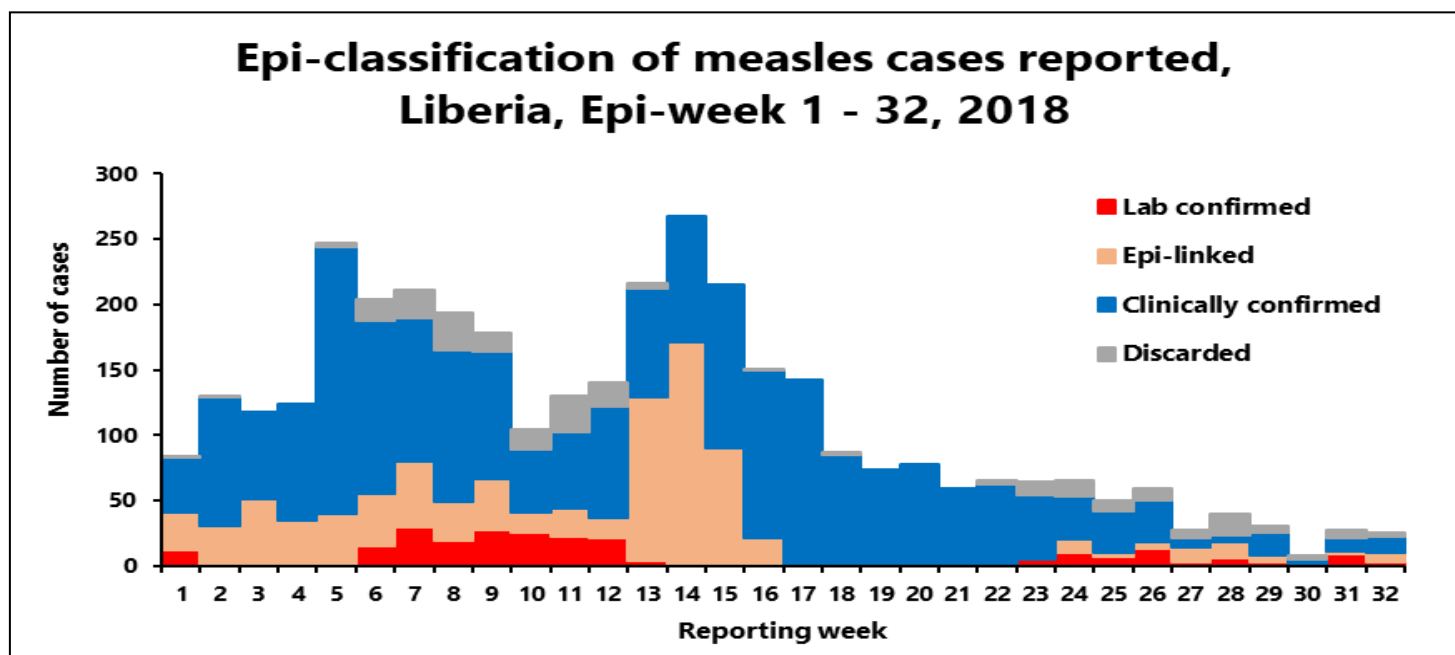
Vaccine Preventable Diseases

Measles

- Twenty-eight (28) suspected cases of measles were reported from Grand Kru (13), Grand Bassa (5), River Gee (3), Sinoe (3), Maryland (2), Montserrado (1) and Rivercess (1) Counties
- Fourteen (14) specimens were collected and sent to the National Reference Laboratory for testing
- Of the fourteen specimens tested, three (3) were confirmed from Grand Bassa (1), Maryland (1) and River Gee (1) Counties
- Ongoing outbreak in Todee district, Montserrado County with a total of five cases (three lab confirmed and two epi-linked)
- A total of 94 backlog cases were tested; of these, 50 positive, 40 negative and 4 equivocal
- Of the twenty-eight (28) suspected cases, 1 (4%) was reported to have been previously vaccinated while 27 (96%) had unknown status
- Age distribution among suspected cases are as follows: <1 year: 2 (7%), 1 – 4 years: 7 (25%), ≥5 years: 19 (68%)
- Cumulatively, since Epi-week one, 3,618 suspected cases including 16 deaths have been reported. Of these suspected cases, 497 have been tested by the laboratory. Epi-classification are as follows: lab confirmed 240 (6.6%), epi-linked 860 (23.7%), clinically confirmed 2,279 (62.9%), discarded 239 (6.6%)
- Of the 239 specimens tested negative for measles, 179 were tested for rubella; positive 57 (31.8%), negative 108 (60.3%), equivocal 2 (1.1%) and 45 pending for rubella testing

Public Health Action

- Reactive measles vaccination ongoing in affected communities
- Case management for all reported cases ongoing
- Active case search and community engagement are ongoing in affected communities
- Weekly review of vaccination coverage and measles data harmonization is ongoing at national and subnational levels



Acute Flaccid Paralysis (Suspected Polio)

- Zero case was reported
- Cumulatively, since Epi week one, 41 cases have been reported and 36 tested negative while 4 pending (all have been shipped) laboratory confirmation

Neonatal Tetanus

- One dead case of neonatal tetanus was reported from Margibi County
- Cumulatively, since Epi-week one, 9 clinically diagnosed cases have been reported

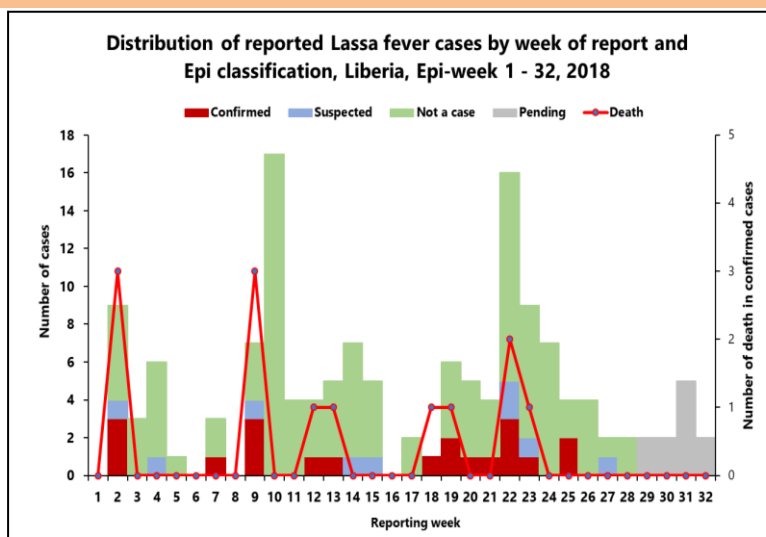
Viral Hemorrhagic Diseases

Ebola Virus Disease (EVD)

- Zero alert of EVD was reported
- Cumulatively, since Epi-week one, 14 EVD alerts have been reported and all tested negative by RT-PCR

Lassa fever

- Two (2) suspected Lassa fever deaths were reported from Grand Bassa County
- Specimens were collected and pending testing at the laboratory
- Cumulatively, since Epi week one, 155 suspected cases have been reported including 37 deaths. Of these, 131 have been tested by the laboratory. Epi-classification are as follows: lab confirmed 20, not a case 111, pending testing 13, while 11 specimens were not received at the laboratory
- CFR in confirmed cases is 65% (13/20)



Yellow fever

- Four (4) suspected Yellow fever cases were reported from Lofa (2), Grand Kru (1) and Grand Gedeh (1) Counties
- Specimens were collected, and the laboratory results showed negative
- Cumulatively, since Epi-week one, 79 suspected cases have been reported including 1 death. Of these, 71 were tested negative by the laboratory and classified as not a case. While 8 specimens were not received at the laboratory

Monkeypox

- Zero suspected case of Monkeypox was reported
- Cumulatively, since Epi-week one, 4 suspected cases have been reported from Sinoe, Rivercess, Nimba and Maryland Counties

Meningitis

- Zero suspected case of meningitis was reported
- Cumulatively, since Epi-week one, 59 suspected cases have been reported of which twenty-six (26) have been tested; two positive by RT-PCR for *Neisseria meningitides serotype w*, twenty-four (24) negative

Events of Public Health Importance

Maternal Mortality

- Five (5) maternal deaths were reported from Bong (2), Montserrado (2), and Grand Gedeh (1) Counties
- Reported causes of death were: postpartum hemorrhage, post-operation complication, obstructed labor, cardio-pulmonary arrest and severe anemia
- Five (5) of the deaths were reported to have occurred in health facilities and one in the community
- Cumulatively, since Epi-week one, 181 maternal deaths have been reported (see Table 3 for causes of death)

Table 3. Causes of reported maternal deaths, Liberia, Epi-week 1 – 32, 2018

Causes	Number	Percent (%)
Post-partum hemorrhage	58	32
Anemia	26	14
Sepsis	23	13
Eclampsia	20	11
Congestive heart failure	10	6
Septic abortion	8	4
Obstructed labor	4	2
Retained placenta	4	2
Abruptio placenta	4	2
Ruptured ectopic	4	2
Renal failure	3	2
Pre-Eclampsia	2	1
Malaria in pregnancy	2	1
Amniotic Embolism	2	1
Tuberculosis	2	1
Pulmonary Embolism	2	1
Ante-partum hemorrhage	2	1
Transfusion reaction	1	1
Hypertension	1	1
Anaphylactic shock	1	1
Ruptured uterus	1	1
Placental previa	1	1
Total	181	100

Table 4. Cumulative Maternal Deaths Reported by Counties, Liberia, Epi-week 1 – 32, 2018

County	Annual Live birth 4.3% (EPI 2018)	Current week	Cumulative	% of Cumulative Maternal deaths	Annualized Maternal Mortality Ratio/100,000
Bong	17289	2	33	18	310
River Gee	3707	0	7	4	307
Bomi	4361	0	8	4	298
Grand Gedeh	6494	1	11	6	275
Gbarpolu	4323	0	7	4	263
Maryland	7048	0	10	6	231
Grand Kru	3002	0	3	2	162
Nimba	23953	0	22	12	149
Montserrado	57974	2	49	27	137
Grand Bassa	11494	0	9	5	127
Margibi	10883	0	7	4	105
Rivercess	3463	0	2	1	94
Sinoe	5308	0	3	2	92
Lofa	14354	0	7	4	79
Grand Cape Mount	6588	0	3	2	74
Liberia (National)	180241	5	181	100	163

Neonatal Mortality

- Sixteen (16) neonatal deaths were reported from Montserrado (6), Lofa (4), Margibi (3), Grand Kru (2), Rivercee (1), Gbarpolu (1) and Bong (1) Counties
- Causes of deaths were: birth asphyxia (7), neonatal sepsis (7), neonatal tetanus (1) and murder (1)
- Fifteen of the deaths were reported to have occurred in the health facilities and one in the community
- Cumulatively, since Epi-week one, 471 neonatal deaths have been reported

Table 5. Cumulative Neonatal Deaths Reported by Counties, Liberia, Epi-week 1 – 32, 2018

County	Annual Live birth 4.3% (EPI 2018)	Current Week	Cumulative Neonatal deaths	% of Cumulative Neonatal deaths	Annualized Neonatal Mortality Rate
Grand Kru	3002	0	17	4	9.5
Montserrado	57974	6	222	48	6.2
River Gee	3707	0	15	3	6.8
Margibi	10883	3	36	7	5.1
Bong	17289	1	49	11	4.7
Rivercess	3463	1	10	2	4.4
Maryland	7048	0	17	4	4.0
Grand Gedeh	6494	0	14	3	3.6
Gbarpolu	4323	0	9	2	3.5
Lofa	14354	4	33	6	3.4
Sinoe	5308	0	11	2	3.5
Grand Bassa	11494	0	14	3	2.0
Nimba	23953	0	19	4	1.3
Bomi	4361	0	2	0	0.8
Grand Cape Mount	6588	0	2	0	0.5
Liberia (National)	180241	16	471	100	4.2

Exposure to Human Rabies (Animal Bites)

- Thirty-seven (37) animal bite cases were reported from Montserrado (22), Lofa (5), Bong (4), Rivercess (2), Maryland (1), Bomi (1), Grand Cape Mount (1) and Nimba (1)
- Cumulatively, since Epi-week one, 908 cases of animal bites have been reported in human of which three cases have been confirmed in animal

Acute Bloody Diarrhea (Suspected Shigellosis)

- Nine (9) cases of acute bloody diarrhea were reported from Sinoe (4), Rivercess (1), Gbarpolu (1), Grand Gedeh (1), Margibi (1), and Montserrado (1) Counties
- Specimens were collected for five and result received for one
- Cumulatively, since Epi-week one, 298 acute bloody diarrhea cases were reported with stool specimens collected from 199 cases
- Of the 199 specimens collected, 97 were tested; 20 positive for *shigella dysenteriae* and 77 negative

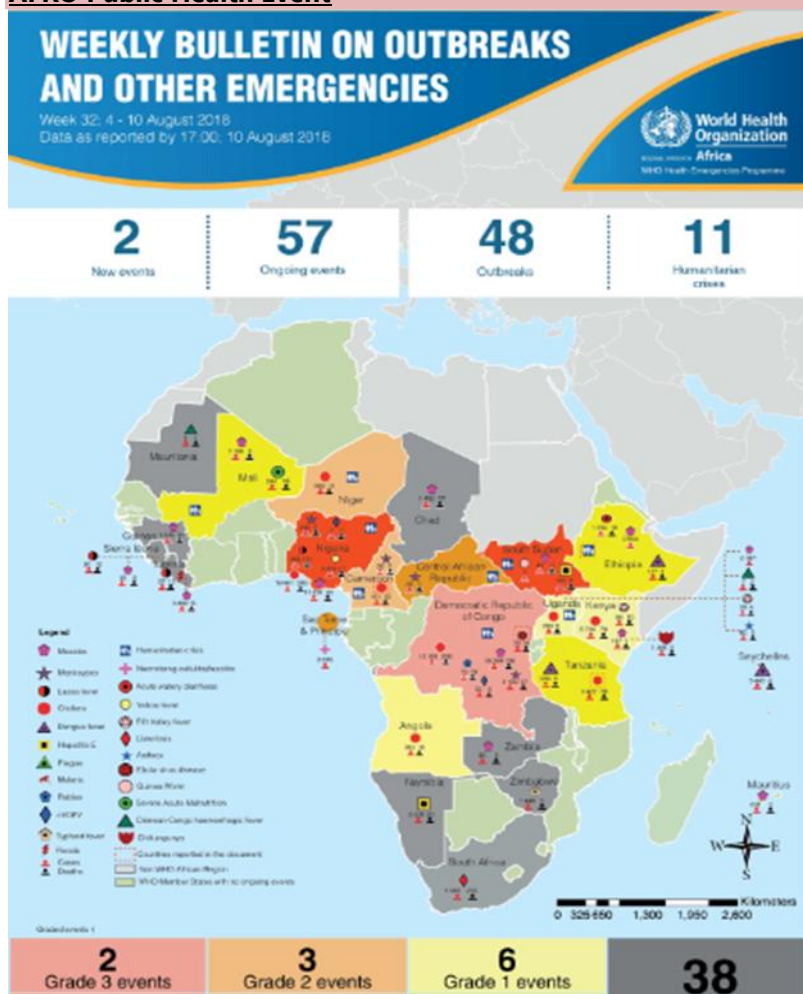
Severe Acute Watery Diarrhea (Cholera)

- Zero suspected cases of cholera was reported
- Cumulatively, since Epi-week one, 61 suspected cases of cholera have been reported of which 29 tested negative (*no growth of Vibrio cholera isolated*); specimens were not collected for 31 cases.

Points of Entry

Type of Ports	Point of Entry	Weekly total	Arrival	Departure	Yellow Book Issued	IDSR Alerts	Alerts Verified
Airport	James Spriggs Paynes	204	90	114	0	0	0
	Robert International Airport	3493	1911	1582	12	0	0
Seaport	Freeport of Monrovia	176	88	88	0	0	0
	Buchanan Port	84	42	42	0	0	0
Ground Crossing	Bo Water Side	580	225	335	243	0	0
	Ganta	299	150	149	37	0	0
	Yekepa	36	19	17	2	0	0
	Loguatu	277	172	105	0	0	0
Total Traveler for the Week		5149	2697	2452	294	0	0

AFRO Public Health Event



The National Public Health Institute of Liberia continues to monitor acute public health emergencies and outbreaks occurring in the African Region in order to ensure to preparedness and preventive measures are

During this week, 57 events are being monitored through WHO Health Emergencies Program in the African Region. Key events highlighted during the week include the following:

- EVD situation and other humanitarian crisis in Democratic Republic of Congo
- Cholera outbreak in Cameroon
- Cholera in Tanzania
- Humanitarian crisis in Ethiopia
- Humanitarian crisis in Central African Republic

Source: WHO Afro week 32 outbreak bulletin



Public Health Measures

National level:

- Providing technical support to Counties
 - Follow up calls to Counties for response activities
 - Ongoing revision and harmonization all immediately reportable diseases
 - Infection prevention and control and risk communication activities are ongoing
 - NPHIL and partners are making effort to address operation support issues with counties

County level:

- Reactive measles vaccination ongoing in affected communities
- Case management for all reported cases ongoing
- Active case search and community engagement are ongoing in affected communities
- Weekly review of vaccination coverage and measles data harmonization is ongoing at national and subnational levels

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

Immediately reportable diseases, conditions, and events by County during Epi week 32 and cumulative reports, Liberia, 2018

Counties	No. of Health Districts No. of Health District reported		Acute Flaccid Paralysis (Polio)		Acute 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	2	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Bong	8	7	0	0	0	0	0	0	4	0	0	0	0	0	0	0	2	1	0	0	0	0	0	0	0	0
Gbarpolu	5	4	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
Grand Bassa	8	6	0	0	0	0	0	0	0	0	0	2	2	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	0	0	0	0	0	0	0	0	0
Grand Gedeh	6	2	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
Grand Kru	5	5	0	0	0	0	0	0	0	0	0	0	13	0	0	0	0	0	0	0	0	0	1	0	0	0
Lofa	6	6	0	0	0	0	0	0	5	0	0	0	0	0	0	0	0	3	0	0	0	0	1	0	0	0
Margibi	4	4	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	4	1	0	0	0	0	0	0	0
Maryland	6	5	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	22	0	0	0	1	0	0	0	2	6	0	0	0	0	0	0	0	0
Nimba	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
Rivercess	6	6	0	0	1	0	0	0	2	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0
River Gee	6	4	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0
Sinoe	10	10	0	0	4	0	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Weekly	92	79	0	0	9	0	0	0	37	0	0	2	24	0	0	0	5	16	1	0	0	0	2	0	0	0
Cumulative Reported			41	0	298	0	61	0	908	0	118	37	3602	16	59	0	181	471	9	0	5	9	78	1	18	5
Cumulative Laboratory Confirmed			0	0	20	0	0	0	3	0	7	13	1093	7	2	0			0	0	0	0	0	0	0	0

D = Dead
A = Alive

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National Public Health Institute of Liberia (NPHIL)

PURPOSE

In collaboration with the Ministry of Health, NPHIL strengthens existing infection prevention and control efforts, laboratories, surveillance, infectious disease control, public health capacity building, response to outbreaks, and monitoring of diseases with epidemic potential.

OUR MISSION

To prevent and control public health threats by promoting healthy outcomes and serving as a source of knowledge and expertise.

GOALS

Contribute to the development and sustainability of the public health workforce

Develop, enhance, and expand the surveillance and response platform

Develop and strengthen the laboratory system and public health diagnostics

Develop, enhance, and expand process and structures to protect environmental and occupation health

Expand, conduct, and coordinate public health and medical research to inform Liberian public health policies

Ensure sustainable financing and operations of the NPHIL

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