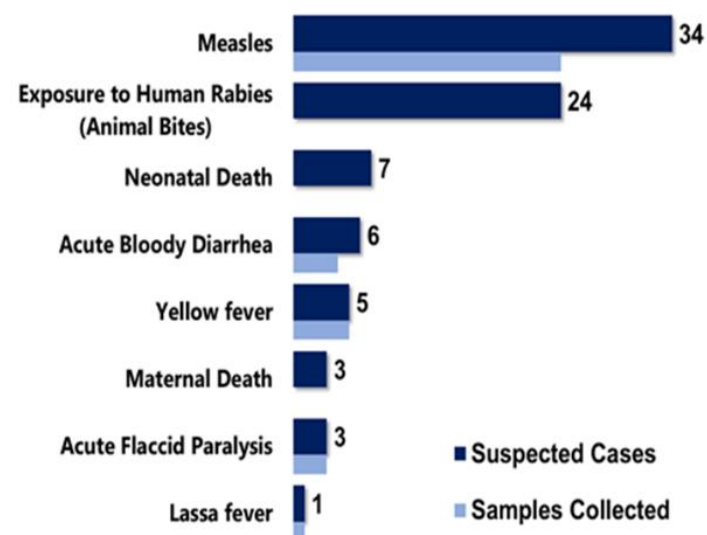


Country Population: 4,433,398 Volume 11, Issue 4, January 21-27, 2019 Data Source: CSOs from 15 Counties and Lab

## Highlights

Figure 1. Public Health Events Reported in Epi week 4



## Keynotes and Events of Public Health Significance

- A total of **84** events of public health importance including **11** deaths were reported
- **Completeness and timeliness** of health facility reports were both **98%**
- **One confirmed shigellosis** in Gbeapo District, River Gee County
- **Measles outbreak** in Grand Gedeh and Gbarpolu Counties

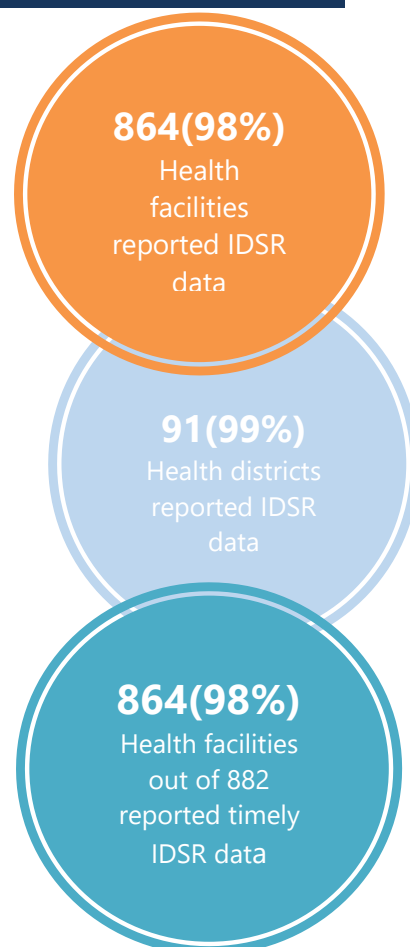
## Reporting Coverage

Table 1. Health Facility Weekly IDSR Reporting Coverage, Liberia, Epi week 4, 2019

County	Number of Expected Report from Health Facility	Number of Reports Received	Number Received on Time	Completeness (%)	Timeliness (%)
Bomi	26	26	26	100	100
Bong	57	57	57	100	100
Gbarpolu	16	16	16	100	100
Grand Bassa	34	34	34	100	100
Grand Cape Mount	34	34	34	100	100
Grand Gedeh	24	24	24	100	100
Grand Kru	19	19	19	100	100
Lofa	59	59	59	100	100
Margibi	59	59	59	100	100
Maryland	26	26	26	100	100
Montserrado	367	349	349	95	95
Nimba	84	84	84	100	100
Rivercess	20	20	20	100	100
River Gee	20	20	20	100	100
Sinoe	37	37	37	100	100
<b>Liberia</b>	<b>882</b>	<b>864</b>	<b>864</b>	<b>98</b>	<b>98</b>

Legend: ≥80 <80

- The national target for weekly IDSR reporting is 80%
- Nimba county submitted weekly IDSR report late to national level



## Vaccine Preventable Diseases

### Measles

- Thirty-four (34) suspected cases were reported from Grand Gedeh (9), Gbarpolu (4), Sinoe (4), Grand Bassa (3), River Gee (3), Rivercess (3), Montserrado (3), Lofa (1), Nimba (1), Bong (1), Margibi (1), and Grand Kru (1) Counties
- Twenty-four specimens were collected; twenty-one tested by the National Public Health Reference Laboratory
  - Eight lab-confirmed (positive) - Gbarpolu (4), Grand Gedeh (2), Bong (1), and Grand Kru (1)
  - Thirteen discarded (negative) and three pending testing
- Tchien District in Grand Gedeh County and Bokomu in Gbarpolu County are currently in outbreak
- Vaccination status:
  - Vaccination status among suspected cases: 12 (35.3%) vaccinated, 17 (50%) not vaccinated and 5 (14.7 %) unknown
  - Vaccination status among confirmed cases: 1 vaccinated, 6 not vaccinated and 1 unknown
- Age distribution
  - Age distribution among suspected cases: <1 year: 2 (5.8%), 1 – 4 years: 10 (29.4%) and ≥5 years: 22 (64.7%)
  - Age distribution among confirmed cases: All > 5 years
- Cumulatively, since Epi-week one, 120 suspected cases including zero deaths have been reported. Of these, 70 have been tested by the laboratory and results showed 23 positive, 46 negative and 1 equivocal
- Epi-classification are as follows: 72 (60%) confirmed (lab confirmed 23, clinically confirmed 39, epi-linked 10) cases, 2 (1.6%) indeterminate, and 46 (38.3%) discarded. *See table 2*

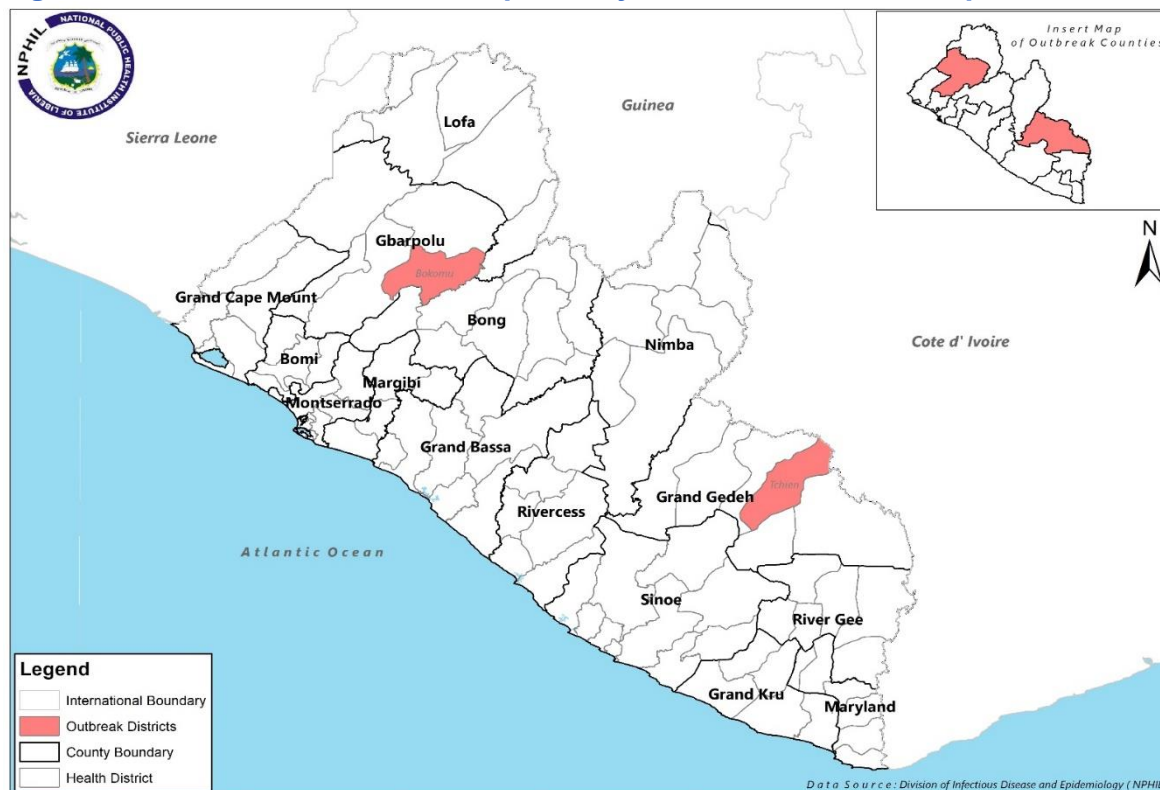
### Public Health Action

- Active case search ongoing in districts that reported
- Health education and community engagement are ongoing

**Table 2. Cumulative Measles Cases Reported by County and Epi-classification, Liberia, Epi-week 1 - 4, 2019**

Reporting County	Epi-classification					Total	Annualized Non-Measles Febrile Rash Illness Rate
	Lab confirmed	Epi-linked	Clinically confirmed	Indeterminate	Discarded		
Bomi	0	0	0	0	0	0	0.0
Bong	4	0	1	1	4	10	11.9
Gbarpolu	4	0	0	0	0	4	0.0
Grand Bassa	0	2	9	0	2	13	9.3
Grand Cape Mount	0	0	0	0	1	1	8.1
Grand Gedeh	8	4	1	1	7	21	57.8
Grand Kru	3	4	0	0	1	8	17.9
Lofa	0	0	1	0	0	1	0.0
Margibi	1	0	1	0	2	4	9.9
Maryland	0	0	0	0	0	0	0.0
Montserrado	3	0	1	0	11	15	9.8
Nimba	0	0	0	0	3	3	6.7
River Gee	0	0	0	0	9	9	139.4
Rivercess	0	0	1	0	4	5	57.9
Sinoe	0	0	24	0	2	26	20.2
<b>Liberia</b>	<b>23</b>	<b>10</b>	<b>39</b>	<b>2</b>	<b>46</b>	<b>120</b>	<b>13.5</b>
Target Achieved	>=2		Below Target	<2			

**Figure 2. Confirmed Measles Cases Reported by Health District, Liberia, Epi-week 4, 2019**



### Acute Flaccid Paralysis (Suspected Polio)

- Three (3) cases were reported from Grand Cape Mount, Nimba and Sinoe Counties
- Specimens were collected and shipped
- Cumulatively, since Epi week one, 5 cases have been reported and pending laboratory confirmation

**Table 3. Non-polio AFP rate per 100,000 population less than 15 years, Liberia, Epi-week 1 - 4, 2019**

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	47576	0	0	0.0	0	0%	0	0%
Bong	196480	0	0	0.0	0	0%	0	0%
Gbarpolu	47163	0	0	0.0	0	0%	0	0%
Grand Bassa	125386	0	0	0.0	0	0%	0	0%
Grand Cape Mount	71872	1	0	18.1	0	0%	0	0%
Grand Gedeh	70844	0	0	0.0	0	0%	0	0%
Grand Kru	32755	0	0	0.0	0	0%	0	0%
Lofa	156050	0	0	0.0	0	0%	0	0%
Margibi	118729	1	0	10.9	1	100%	0	0%
Maryland	76884	0	0	0.0	0	0%	0	0%
Montserrado	653849	1	0	2.0	1	100%	0	0%
Nimba	261314	0	0	0.0	0	0%	0	0%
Rivercess	40444	0	0	0.0	0	0%	0	0%
River Gee	37775	0	0	0.0	0	0%	0	0%
Sinoe	57910	0	0	0.0	0	0%	0	0%
<b>Liberia</b>	<b>1995031</b>	<b>3</b>	<b>0</b>	<b>2.0</b>	<b>2</b>	<b>67%</b>	<b>0</b>	<b>0%</b>
<b>Non-Polio AFP Rate</b>	<b>&lt;2</b>	<b>Stool adequacy</b>		<b>&lt;80%</b>	<b>Non-Polio Enterovirus</b>	<b>&lt;10%</b>	<b>Silent</b>	
	<b>≥ 2</b>			<b>≥80%</b>		<b>≥10%</b>		



# Liberia IDSR Epidemiology Bulletin

2019 Epi Week 4 (January 21-27, 2019)



## Neonatal Tetanus

- Zero case was reported
- Cumulatively, since Epi-week one, 1 clinically diagnosed case has been reported

## Viral Hemorrhagic Diseases

### Ebola Virus Disease (EVD)

- No alert was reported
- Cumulatively, since Epi-week one, 2 EVD alerts have been reported and tested negative

### Lassa fever

- One case was reported from Bong County
  - Specimen was collected and pending testing
- Cumulatively, since Epi week one, 9 suspected cases have been reported
  - Of these, eight have been tested by the laboratory. Epi-classification are as follows: 2 lab-confirmed, 6 not a case and 1 pending testing

### Yellow fever

- Five (5) suspected cases were reported from Montserrado (2), Gbarpolu (1), Grand Kru (1), and Rivercess (1) Counties
  - Specimens were collected for all cases and tested negative
- Cumulatively, since Epi-week one, 8 suspected cases have been reported; all tested negative

### Monkeypox

- Zero case was reported this week
- Cumulatively, since Epi-week one, 2 suspected cases have been reported pending shipment

### Meningitis

- Zero case was reported
- Cumulatively, since Epi-week one, 5 suspected cases have been reported and all tested negative

## Events of Public Health Importance

### Maternal Mortality

- Three (3) deaths were reported from Lofa, Bong and Montserrado Counties
- Reported causes of deaths were:
  - Postpartum Hemorrhage (2)
  - Sepsis
- All deaths were reported to have occurred in health facilities
- Cumulatively, since Epi-week one, 21 maternal deaths have been reported (*See Table 4*)

**Table 4. Cumulative Maternal Deaths Reported by Counties, Liberia, Epi-week 1 - 4, 2019**

County	Estimated Annual Live birth (4.3%)	Current week	Cumulative	% of Cumulative Maternal deaths	Annualized Maternal Mortality Ratio/100,000
Grand Gedeh	6770	0	2	10	384
Maryland	7347	0	2	10	354
Margibi	11345	0	2	10	229
Grand Bassa	11981	0	2	10	217
Bong	18775	1	3	14	208
Nimba	24970	0	3	14	156
Montserrado	62479	1	6	29	125
Lofa	14911	1	1	5	87
Bomi	4546	0	0	0	0
Gbarpolu	4507	0	0	0	0
Grand Cape Mount	6868	0	0	0	0
Grand Kru	3130	0	0	0	0
River Gee	3610	0	0	0	0
Rivercess	3865	0	0	0	0
Sinoe	5534	0	0	0	0
<b>Liberia (National)</b>	<b>190636</b>	<b>3</b>	<b>21</b>	<b>100</b>	<b>143</b>

## Neonatal Mortality

- Seven (7) deaths were reported from Lofa (3), Grand Kru (2) and Maryland (2) Counties
- Reported causes of deaths were
  - Asphyxia (5)
  - Sepsis (1)
  - Preterm (1)
- All deaths were reported to have occurred in health facilities
- Cumulatively, since Epi-week one, 45 neonatal deaths have been reported

**Table 5. Cumulative Neonatal Deaths Reported by Counties, Liberia, Epi-week 1 - 4, 2019**

County	Estimated Annual Live birth (4.3%)	Current Week	Cumulative	% of Cumulative Neonatal deaths	Annualized Neonatal Mortality Rate/1000
Maryland	7347	2	5	11	8.8
Grand Kru	3130	2	2	4	8.3
River Gee	3610	0	2	4	7.2
Lofa	14911	3	6	13	5.2
Montserrado	62479	0	23	51	4.8
Bomi	4546	0	1	2	2.9
Margibi	11345	0	2	4	2.3
Grand Bassa	11981	0	2	4	2.2
Grand Gedeh	6770	0	1	2	1.9
Bong	18775	0	1	2	0.7
Gbarpolu	4507	0	0	0	0
Grand Cape Mount	6868	0	0	0	0
Nimba	24970	0	0	0	0
Rivercess	3865	0	0	0	0
Sinoe	5534	0	0	0	0
<b>Liberia (National)</b>	<b>190636</b>	<b>7</b>	<b>45</b>	<b>100</b>	<b>3.1</b>



# Liberia IDSR Epidemiology Bulletin

2019 Epi Week 4 (January 21-27, 2019)



## Other Reportable Disease

### Exposure to Human Rabies (Animal Bites)

- Twenty-four (24) cases were reported from Nimba (6), Margibi (5), Bong (2), Gbarpolu (2), Grand Gedeh (2), Montserrado (2), Grand Kru (1), River Gee (1), Maryland (1), Sinoe (1) and Rivercess (1) Counties
- Cumulatively, since Epi-week one, 122 suspected cases of animal bites have been reported in human

### Acute Bloody Diarrhea (Suspected Shigellosis)

- Six (6) suspected cases were reported from Gbarpolu, Lofa, Montserrado, River Gee, Sinoe and Rivercess Counties
  - Four specimens were collected from Montserrado, River Gee and Rivercess and Sinoe Counties; two tested negative, one tested positive and one pending testing
  - The confirmed case was reported from Gbeapo District, River Gee County
- Cumulatively, since Epi-week one, 11 acute bloody diarrhea cases were reported with 6 stool specimens collected; two tested positive, two negative and one pending testing

### Severe Acute Watery Diarrhea (Cholera)

- Zero case was reported
- Cumulatively, since Epi-week one, 9 suspected cases has been reported

## Points of Entry

- Zero IDSR alerts detected and verified during this week
- A total of 5312 travelers were recorded for the week (*See Table 6*)

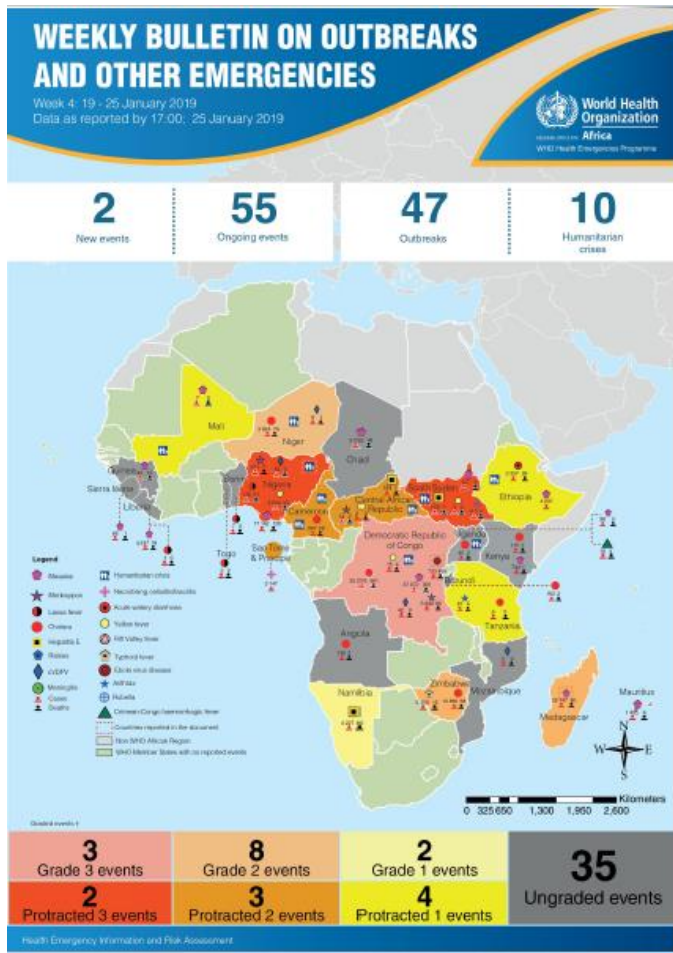
**Table 5. Total Travelers and IDSR Alerts Detected and Verified at Points of Entry, Liberia, Epi-week 4, 2019**

Type of Ports	Point of Entry	Weekly total	Arrival	Departure	Yellow Book Issued	Yellow Book Damage/Card Replaced	Travelers Vaccinated	IDSR Alerts	Alerts Verified
<b>Airport</b>	James S. Paynes	74	37	37	0	0	0	0	0
	Robert International Airport	3466	1565	1903	27	27	0	0	0
<b>Seaport</b>	Freeport of Monrovia	188	94	94	0	0	0	0	0
	Buchanan Port	172	86	86	0	0	0	0	0
<b>Ground Crossing</b>	Bo Water Side	636	270	366	31	31	0	0	0
	Ganta	163	77	86	32	32	0	0	0
	Yekepa	79	53	26	0	0	0	0	0
	Loguatuo	359	107	252	0	0	0	0	0
	Nursing Division	175	161	14	175	54	121	0	0
<b>Total Traveler for the Week</b>		<b>5312</b>	<b>2448</b>	<b>2864</b>	<b>265</b>	<b>144</b>	<b>121</b>	<b>0</b>	<b>0</b>

**Note: Yellow book issue for both arrival and departure; Vaccination coverage for both arrival and departure**

## AFRO Public Health Events

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 implemented



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:

- Ebola virus disease in the Democratic Republic of the Congo
- Measles in Madagascar
- Humanitarian crisis in Nigeria
- Humanitarian crisis in South Sudan

Source: WHO Week 4 Bulletin on Outbreaks and Other Emergencies

## Outbreaks

### Tchien District, Grand Gedeh County : Measles

- A total of 11 cases have been reported since the outbreak started 21 January 2019
- Three new suspected cases reported and isolated
- Sixteen contacts identified and a followed up
- Active case search conducted in affected and surrounding communities
- Health education and radio talk show ongoing while the County Health Team continues to respond to the outbreak
- Plan to conduct mini measles vaccination campaign

- Specimens were collected, tested and the result showed 4 positive on 29 January 2019
- Vaccination status for the cases were unknown
- Ten additional cases were identified
- District is planning mini vaccination campaign
- County doing inventory on vaccine availability in county
- Active case search and daily follow up continues
- Community engagement is ongoing

### Bokomu District, Gbarpolu County: Measles

- On 26 January 2019, 4 suspected cases of Measles were reported from Kologbandy Community, Bokomu District

### Grand Bassa County: Lassa fever

- As of 30 January 2019, no new case identified
- Ten of the 20 contacts have completed 21 days follow up
- The case patient is admitted but stable and ambulating



# Liberia IDSR Epidemiology Bulletin

2019 Epi Week 2 (January 7– 13, 2019)



- Active case search and daily follow up continues
- Community engagement is ongoing

- The case patient is admitted at the Ganta Hospital and responding to treatment
- As of current, 20 contacts are being followed up
  - 14 health workers
  - 6 family members

## Nimba County: Lassa fever

- No new case identified up to date

## Public Health Measures

### National level:

- Providing technical remote support to Counties to:
  - Heighten surveillance in affected and surrounding communities

### County level:

- Case management for all reported cases ongoing
- Active case search ongoing in affected communities for Measles, and Lassa fever

## 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

## Immediately reportable diseases, conditions, and events by County during Epi week 4 and cumulative reports, Liberia, 2019

Counties	No. of Health Districts 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	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	9	9	0	0	0	0	0	0	2	0	1	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0
Gbarpolu	5	5	0	0	1	0	0	0	2	0	0	0	4	0	0	0	0	0	0	0	0	0	1	0	0	0
Grand Bassa	8	8	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Cape Mount	5	5	1	0	0	0	0	0	0	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	2	0	0	0	9	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Kru	5	5	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	2	0	0	0	0	1	0	0	0
Lofa	6	5	0	0	1	0	0	0	0	0	0	0	1	0	0	0	1	3	0	0	0	0	0	0	0	0
Margibi	4	4	0	0	1	0	0	0	5	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	2	0	0	0	0	0	0	0	0
Montserrado	7	7	0	0	0	0	0	0	2	0	0	0	3	0	0	0	1	0	0	0	0	0	2	0	0	0
Nimba	6	6	1	0	0	0	0	0	6	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
Rivercess	6	6	0	0	1	0	0	0	1	0	0	0	3	0	0	0	0	0	0	0	0	0	1	0	0	0
River Gee	4	4	0	0	1	0	0	0	1	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0
Sinoe	10	10	3	0	1	0	0	0	1	0	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0
<b>Total Weekly</b>	<b>91</b>	<b>91</b>	<b>3</b>	<b>0</b>	<b>6</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>24</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>34</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>3</b>	<b>7</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>5</b>	<b>0</b>	<b>0</b>	<b>0</b>
<b>Cumulative Reported</b>			<b>5</b>	<b>0</b>	<b>11</b>	<b>0</b>	<b>9</b>	<b>0</b>	<b>122</b>	<b>0</b>	<b>7</b>	<b>2</b>	<b>120</b>	<b>0</b>	<b>5</b>	<b>0</b>	<b>21</b>	<b>45</b>	<b>1</b>	<b>0</b>	<b>2</b>	<b>1</b>	<b>8</b>	<b>0</b>	<b>0</b>	<b>0</b>
<b>Cumulative Laboratory Confirmed</b>			<b>0</b>	<b>0</b>	<b>2</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>73</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>

**D** = Dead  
**A** = Alive

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## **National Public Health Institute of Liberia (NPHIL)**

### **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

Epidemiological bulletin published with support of WHO and CDC

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