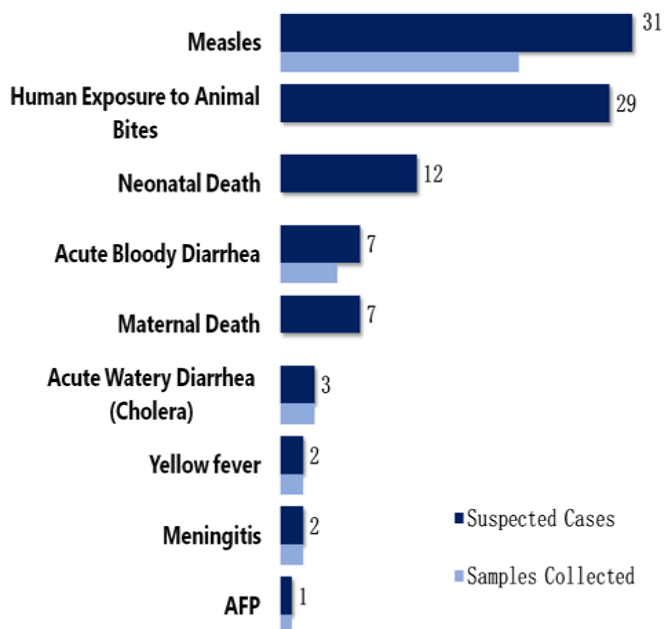


## Highlights

### Figure 1. Public Health Events Reported during this week



### Keynotes and Events of Public Health Significance

- A total of **94** events of public health importance including **19** deaths were reported
- **Completeness and timeliness** of health facility reports were **100%** and **98%** respectively
- **Ongoing suspected Measles outbreaks** in three counties
- **Ongoing Lassa fever outbreaks** in two counties

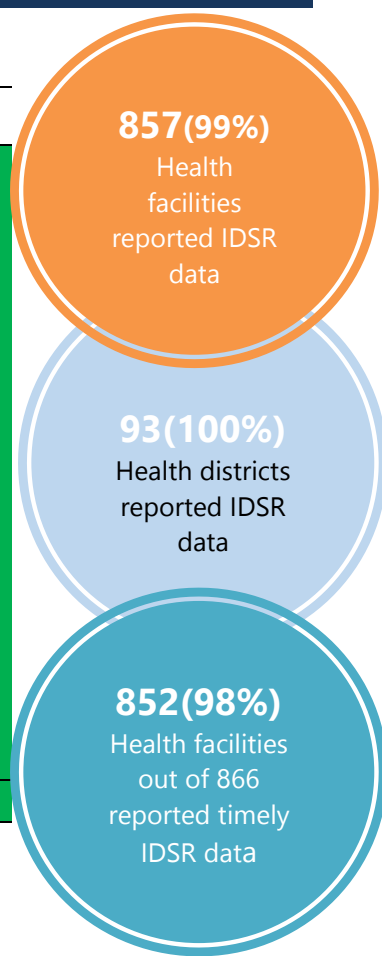
## Reporting Coverage

Table 1. Health Facility Weekly IDSR Reporting Coverage, Liberia, Epi week 16, 2019

County	Expected report from health facility	Reports received	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	21	100	81
Montserrado	351	342	342	97	97
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>866</b>	<b>857</b>	<b>852</b>	<b>99.8</b>	<b>98</b>

Legend: ≥80 <80

- The national target for weekly IDSR reporting is 80%
- Health facility timeliness is monitored at County level
- All counties submitted weekly IDSR report on time to national level except for Nimba County



## Vaccine Preventable Diseases

### Measles

- Thirty-one (31) suspected cases were reported from Montserrado (8), Rivercess (6), River Gee (5), Lofa (3), Grand Kru (3), Margibi (2), Grand Cape Mount (1), Grand Gedeh (1), Nimba (1) and Sinoe (1) Counties.
- Twenty-one (21) specimens were collected pending laboratory confirmation
- Fuamah District, Bong County, Firestone District, Margibi County and Kolahun and Voinjama Districts, Lofa County are currently in outbreak phase
- Vaccination status:
  - Among suspected cases: 17 (54.8%) vaccinated, 3 (9.7%) not vaccinated and 11 (35.4%) unknown
- Age distribution
  - Among suspected cases: <1 year: 2 (6.4%), 1 – 4 years: 4 (12.9%), ≥5 years: 25 (80.6%)
- Cumulatively, since Epi-week one, 794 suspected cases have been recorded; Of these, 293 have been tested by the laboratory and results showed 65 positive, 222 negative and 6 indeterminate
- Epi-classification is as follows: 794 (68%) confirmed (65 lab confirmed, 432 clinically confirmed, 69 epi-linked), 222 (45.6%) negative and 6 (1.2%) indeterminate (*See Table 2*)
  - Of the 222 specimens tested negative for measles, 173 specimens were tested for Rubella; 83 positive, 80 negative and 10 indeterminate for rubella

### Public Health Action

- Case Management, active case search, health education, and community engagement are ongoing in districts that reported

**Table 2. Cumulative Measles Cases Reported by County and Epi-classification, Liberia, Epi-week 1 - 16, 2019**

Reporting County	Epi-classification					Total	Annualized Non-Measles Febrile Rash Illness Rate
	Lab confirmed	Epi-linked	Clinically confirmed	Indeterminate (Equivocal)	Discarded (Negative)		
Bomi	0	0	8	0	4	12	12.3
Bong	9	2	26	1	11	49	8.2
Gbarpolu	4	27	46	0	5	82	15.5
Grand Bassa	2	2	20	1	15	40	17.5
Grand Cape Mount	0	0	5	0	8	13	16.3
Grand Gedeh	13	14	15	0	14	56	28.9
Grand Kru	8	20	28	0	9	65	40.2
Lofa	1	0	47	0	6	54	5.6
Margibi	6	0	30	1	20	57	24.6
Maryland	0	0	0	0	1	1	1.9
Montserrado	9	4	58	1	55	127	12.3
Nimba	3	0	23	1	27	54	15.1
River Gee	5	0	23	0	21	49	81.3
Rivercess	1	0	36	0	20	57	72.3
Sinoe	4	0	67	1	6	78	15.2
<b>Liberia</b>	<b>65</b>	<b>69</b>	<b>432</b>	<b>6</b>	<b>222</b>	<b>794</b>	<b>16.3</b>
Target Achieved	>=2		Below Target	<2			

Figure 2. Confirmed Measles Cases Reported by Health District, Liberia, Epi-week 1 - 16, 2019



### Acute Flaccid Paralysis (Suspected Polio)

- One case reported from Margibi County
  - Specimen collected pending shipment
- Cumulatively, since Epi week one, 20 cases have been recorded, 9 tested negative and 9 pending laboratory confirmation (See Table 3)

Table 3. Non-polio AFP rate per 100,000 population less than 15 years, Liberia, Epi-week 1 - 16, 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	1	0	1.7	1	100%	0	0%
Gbarpolu	47163	0	0	0.0	0	0%	0	0%
Grand Bassa	125386	1	1	2.6	1	100%	0	0%
Grand Cape Mount	71872	1	1	4.5	1	100%	0	0%
Grand Gedeh	70844	1	0	4.6	1	100%	0	0%
Grand Kru	32755	0	0	0.0	0	0%	0	0%
Lofa	156050	1	0	2.1	1	100%	0	0%
Margibi	118729	2	1	5.5	2	100%	0	0%
Maryland	76884	2	1	8.5	2	100%	0	0%
Montserrado	653849	6	3	3.0	6	100%	0	0%
Nimba	261314	1	1	1.2	1	100%	0	0%
Rivercess	40444	0	0	0.0	0	0%	0	0%
River Gee	37775	1	0	8.6	1	100%	0	0%
Sinoe	57910	3	1	16.8	3	100%	0	0%
<b>Liberia</b>	<b>1995031</b>	<b>20</b>	<b>9</b>	<b>3.3</b>	<b>20</b>	<b>100%</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

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## Neonatal Tetanus

- Zero case reported
- Cumulatively, since Epi-week one, 13 clinically diagnosed cases have been recorded of which six were dead

## **Viral Hemorrhagic Diseases**

### Ebola Virus Disease (EVD)

- Zero alert reported
- Cumulatively, since Epi-week one, 7 EVD alerts have been recorded with negative results

### Lassa fever

- Zero case reported
- Cumulatively, since Epi week one, 54 suspected cases have been recorded including six deaths
  - Of the total suspected cases, forty-six (46) have been tested by the laboratory. Epi-classification is as follows: 19 positive, 32 negative and 3 pending laboratory confirmation

### Yellow fever

- Two (2) suspected cases reported from Grand Kru and Lofa Counties
  - Specimens were collected; one tested negative and one pending laboratory confirmation
- Cumulatively, since Epi-week one, 33 suspected cases including one death have been recorded. Of these, 30 have been tested negative, specimens were not collected for two while one is pending laboratory confirmation

### Monkeypox

- Zero suspected case reported
- Cumulatively, since Epi week one, 49 suspected cases have been reported and no specimen has been shipped

### Meningitis

- Two (2) suspected cases reported from Maryland and Nimba Counties
  - Specimens were collected and tested negative
- Cumulatively, since Epi-week one, 18 suspected cases have been recorded, 17 tested negative, and one specimen not collected due to lack of specimen collection kits

## **Events of Public Health Importance**

### Maternal Mortality

- Seven (7) deaths reported from Montserrado (3), Margibi (2), Grand Gedeh (1) and Bong (1) Counties
- Reported causes: postpartum hemorrhage (4), anemia (1), eclampsia (1) and sepsis (1)
- Six deaths were reported to have occurred in health facilities and one in the community
- Cumulatively, since Epi-week one, 67 maternal deaths have been recorded (*See Table 4*)

**Table 4. Annualized and Cumulative Maternal Deaths Reported by Counties, Liberia, Epi-week 1 - 16, 2019**

County	Estimated Annual Live birth (4.3%)	Current week	Cumulative	% of Cumulative Maternal deaths	Annualized Maternal Mortality Ratio/100,000
Grand Gedeh	6770	1	5	7	240
Maryland	7347	0	5	7	221
Bong	18775	1	10	15	173
Margibi	11345	2	6	9	172
Gbarpolu	4507	0	2	3	144
Nimba	24970	0	11	16	143
Sinoe	5534	0	2	3	117
Grand Bassa	11981	0	4	6	109
River Gee	3610	0	1	1	90
Montserrado	62479	3	17	25	88
Rivercess	3865	0	1	1	84
Bomi	4546	0	1	1	71
Grand Cape Mount	6868	0	1	1	47
Lofa	14911	0	1	1	22
Grand Kru	3130	0	0	0	0
<b>Liberia (National)</b>	<b>190636</b>	<b>7</b>	<b>67</b>	<b>100</b>	<b>144</b>

## Neonatal Mortality

- Twelve (12) deaths were reported from Bong (5), Grand Gedeh (2), Margibi (2), Montserrado (2) and River Gee (1) Counties
- Reported causes of deaths: sepsis (6), asphyxia (5) and preterm (1)
- Eleven deaths were reported to have occurred in health facilities and one in the community
- Cumulatively, since Epi-week one, 199 neonatal deaths have been reported (*See Table 5*)

**Table 5. Annualized and Cumulative Neonatal Deaths Reported by Counties, Liberia, Epi-week 1 - 16, 2019**

County	Estimated Annual Live birth (4.3%)	Current week	Cumulative	% of Cumulative Neonatal deaths	Annualized Neonatal Mortality Ratio/1,000
Grand Kru	3130	0	13	7	13.5
Grand Gedeh	6770	2	16	8	7.7
Margibi	11345	2	21	11	6.0
Montserrado	62479	5	27	14	4.7
Bong	18775	2	85	43	4.4
Rivercess	3865	0	5	3	4.2
Maryland	7347	1	3	2	2.7
Lofa	14911	0	6	3	2.7
River Gee	3610	0	11	6	2.4
Bomi	4546	0	2	1	1.4
Gbarpolu	4507	0	1	1	0.7
Nimba	24970	0	5	3	0.7
Grand Bassa	11981	0	1	1	0.6
Sinoe	5534	0	2	1	0.5
Grand Cape Mount	6868	0	1	1	0.5
<b>Liberia (National)</b>	<b>190636</b>	<b>12</b>	<b>199</b>	<b>100</b>	<b>3.4</b>

## Other Reportable Diseases

### Animal Bites (Human Exposure to Rabies)

- Twenty-nine (29) cases were reported from Montserrado (14), Nimba (3), Bong (3), Grand Kru (2), River Gee (2), Rivercess (2), Grand Bassa (1) and Grand Gedeh (1) and Sinoe (1)
- Cumulatively, since Epi-week one, 569 cases of animal bites have been recorded

### Acute Bloody Diarrhea (Suspected Shigellosis)

- Seven (7) cases were reported from Margibi (2), Gbarpolu (2), Grand Gedeh (1), Rivercess (1) and Sinoe (1) Counties
  - Six specimens were collected; 2 tested negative and 4 pending laboratory confirmation
- Cumulatively, since Epi-week one, 89 acute bloody diarrhea cases have been recorded with 48 stool specimens collected and tested; 7 positive, 40 not a case (negative), 1 pending and 40 specimens were not collected

### Severe Acute Watery Diarrhea (Cholera)

- Three (3) suspected cases were reported Margibi (2) and Bomi (1) Counties
  - Three specimens were collected pending laboratory confirmation
- Cumulatively, since Epi-week one, 43 suspected cases have been recorded with 32 specimens collected and tested; 27 negative, 13 specimens were not collected while 3 specimens are pending laboratory confirmation

\*\*\*The two pending cases fall in week 12 and week 14

### Unexplained Cluster of Health Events

- Zero case reported
- Cumulatively, since Epi-week one, eleven cases of unexplained death has been reported

## Points of Entry

- Zero IDSR alert detected and verified
- A total of 4758 travelers were recorded for the week (See Table 6)

**Table 6. Total Travelers, IDSR Alerts Detected and Verified at Points of Entry, Liberia, Epi-week 16, 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
Airport	James S. Paynes	138	75	63	0	0	0	0	0
	Robert International Airport	2782	1086	1696	11	0	11	0	0
Seaport	Freeport of Monrovia	178	89	89	0	0	0	0	0
	Buchanan Port	168	84	84	0	0	0	0	0
Ground Crossing	Bo Water Side	708	244	464	37	20	17	0	0
	Ganta	439	195	244	0	0	0	0	0
	Yekepa	84	48	36	0	0	0	0	0
	Loguatu	138	79	59	38	38	0	0	0
	Nursing Division	123	121	2	123	43	80	0	0
<b>Total Traveler for the Week</b>		<b>4758</b>	<b>2021</b>	<b>2737</b>	<b>209</b>	<b>101</b>	<b>108</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 preparedness and preventive measures are implemented



During this week, 66 events are being monitored through WHO Health Emergencies Program in the African Region. Key events highlighted during the week include the following:

- Cyclone in Mozambique
- Ebola virus disease outbreak in the Democratic Republic of the Congo
- Lassa fever in Nigeria
- Hepatitis E in Namibia
- Chikungunya in the Republic of Congo

## Outbreaks:

### Measles:

#### Fuama Districts, Bong County: Measles

- Fuamah District no new suspected case reported
- Reported 2 new suspected cases
- Conducted mini vaccination campaign and vaccinated 248 children 6-59 months

#### Kolahun and Voinjama Districts, Lofa County

- Reported 3 new suspected cases (Voinjama 2, Foya 1 and Kolahun 0)
- Conducted mini measles campaign in Voinjama District and vaccinated 6177 targeting 13,000 children from April 8-13, 2019

### Lassa Fever:

- Two cases confirmed by NPHRL
  - 21 years old female, (4 weeks post-partum) from Trola town
- Patient was referred to Redemption Hospital

#### • Firestone, Margibi County

- Reported 2 new suspected cases
- Cases were treated and discharged
- Measles outreach was conducted from April 4-5, 2019
- Community engagement and health education ongoing in affected and surrounding communities
- Specimen was collected and tested positive on April 16, 2019
- 1 contact presented with symptoms and expired
- A total of 9 contacts were line listed and are being followed up



# Liberia IDSR Epidemiology Bulletin

2019 Epi-week 15 (April 8– 14, 2019)



## Public Health Measures

### National level

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

### County level

- Case management for all reported cases ongoing
- Active case searches 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 Negative 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



Counties	No. of Expected Health District		Acute Flaccid Paralysis (Suspected 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		Ebola Virus Disease		Yellow fever		Monkeypox		Dengue fever		Buruli Ulcer		MDR Tuberculosis		Yaws		Unexplained Cluster of deaths		Unexplained Cluster of Health Events/Disease		Other Diseases/Events	
	A	D	A	D	A	D	A	D	A	D	A	D	A	D	A	D	A	D	A	D	A	D	A	D	A	D	A	D	A	D	A	D	A	D	A	D	A	D	A	D		
	No. of Health District Reported																																									
Bomi	4	4	0	0	0	0	1	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	0	0	0	0	0	0	0	0		
Bong	9	9	0	0	0	0	0	0	3	0	0	0	0	0	0	0	1	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	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	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	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	0	0	0		
Grand Cape Mount	5	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	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Grand Gedeh	6	6	0	0	1	0	0	0	0	0	0	1	0	0	0	1	2	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	0	0	0	0	2	0	0	0	3	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	0	0		
Lofa	6	6	0	0	0	0	0	0	0	0	0	3	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	0	0	0		
Margibi	4	4	1	0	3	0	2	0	0	0	0	2	0	0	0	2	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Maryland	6	4	0	0	0	0	0	0	0	0	0	0	0	1	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	0		
Monterrado	7	4	0	0	0	0	0	0	14	0	0	0	8	0	0	0	3	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Nimba	6	6	0	0	0	0	0	0	3	0	0	0	1	0	1	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		
Rivercess	6	6	0	0	1	0	0	0	0	0	0	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	0	0	0	0		
River Gee	6	6	0	0	0	0	0	0	2	0	0	0	5	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Sinoe	10	10	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	0	0	0	0	0	0	0	0	0	0	0	0	0		
<b>Total Weekly</b>	<b>93</b>	<b>88</b>	<b>1</b>	<b>0</b>	<b>8</b>	<b>0</b>	<b>3</b>	<b>0</b>	<b>29</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>18</b>	<b>0</b>	<b>2</b>	<b>0</b>	<b>7</b>	<b>12</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>	<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>Cumulative Reported</b>			<b>1</b>		<b>9</b>		<b>4</b>	<b>1</b>	<b>56</b>		<b>5</b>	<b>6</b>	<b>79</b>		<b>1</b>		<b>6</b>	<b>19</b>		<b>6</b>	<b>6</b>		<b>5</b>	<b>2</b>		<b>3</b>	<b>0</b>	<b>4</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>1</b>	<b>0</b>				
<b>Cumulative Laboratory Confirmed</b>			<b>0</b>		<b>0</b>		<b>0</b>		<b>0</b>		<b>1</b>	<b>6</b>	<b>65</b>		<b>0</b>			<b>14</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>	<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

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

**MISSION**

*To prevent and control  
public health threats by  
promoting healthy  
outcomes and serving as a  
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