



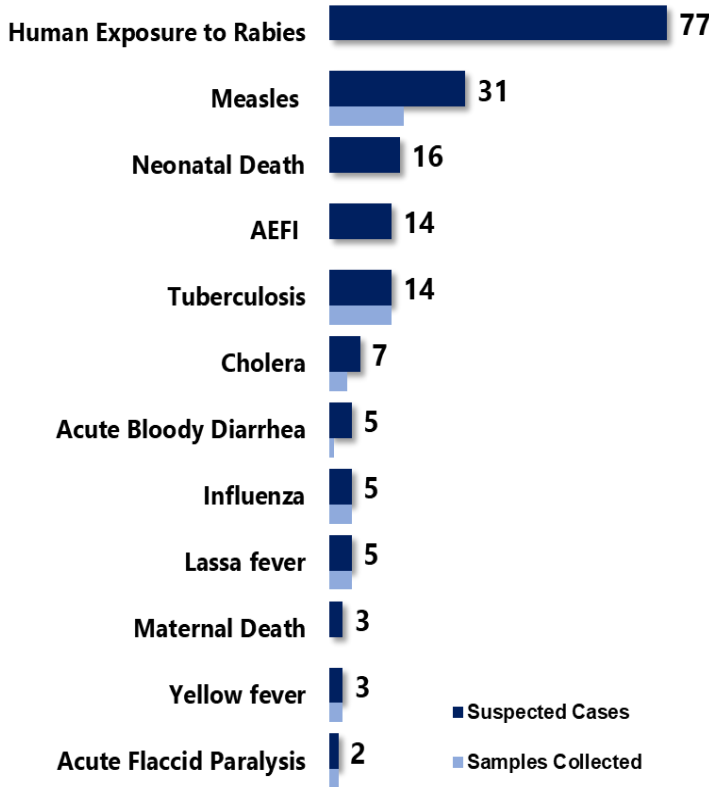
# Liberia IDSR Epidemiology Bulletin

Epi-week 4 (January 22-28, 2024)

Country Population: 5,104,413 | Volume 20 Issue 4 | January 22-28, 2024 | Data Source: CSOs from 15 Counties and Laboratory

## Highlights

Figure 1: Public Health Events Reported



## Keynotes and Events of Public Health Significance

- ◆ A total of 182 events of public health importance including 21 deaths reported
- ◆ Completeness and timeliness of health facility reports were at 97 & 96% respectively
- ◆ Ongoing Lassa fever outbreak in 2 Counties
- ◆ Ongoing Measles outbreak in 1 County
- ◆ Ongoing Mpox outbreak in 1 county

Adverse Events Following Immunization/Adverse Drug Reaction (AEFI)

## Reporting Coverage

Table 1: Health Facility Weekly IDSR Reporting Coverage, Liberia, Epi-week 4, 2024

County	Expected Reports From HF*	Reports Received	Received on Time	Completeness (%)	Timeliness (%)
Bomi	28	28	28	100	100
Bong	67	67	67	100	100
Gbarpolu	18	18	18	100	100
Grand Bassa	37	37	37	100	100
Grand Cape Mount	34	34	34	100	100
Grand Gedeh	24	24	24	100	100
Grand Kru	24	24	24	100	100
Lofa	60	60	60	100	100
Margibi	66	63	63	95	95
Maryland	28	28	28	100	100
Montserrado	418	387	385	93	92
Nimba	92	92	92	100	100
Rivercess	21	21	21	100	100
River Gee	20	20	20	100	100
Sinoe	41	41	41	100	100
<b>Liberia</b>	<b>978</b>	<b>944</b>	<b>942</b>	<b>97</b>	<b>96</b>

944(97%)  
Health facilities reported IDSR data

98(100%)  
Health districts reported IDSR data

942(96%)  
Health facilities reported timely IDSR data

◆ The national target for weekly IDSR reporting is 80%. Health facility timeliness is monitored at the health district level

Legend:

≥80

<80

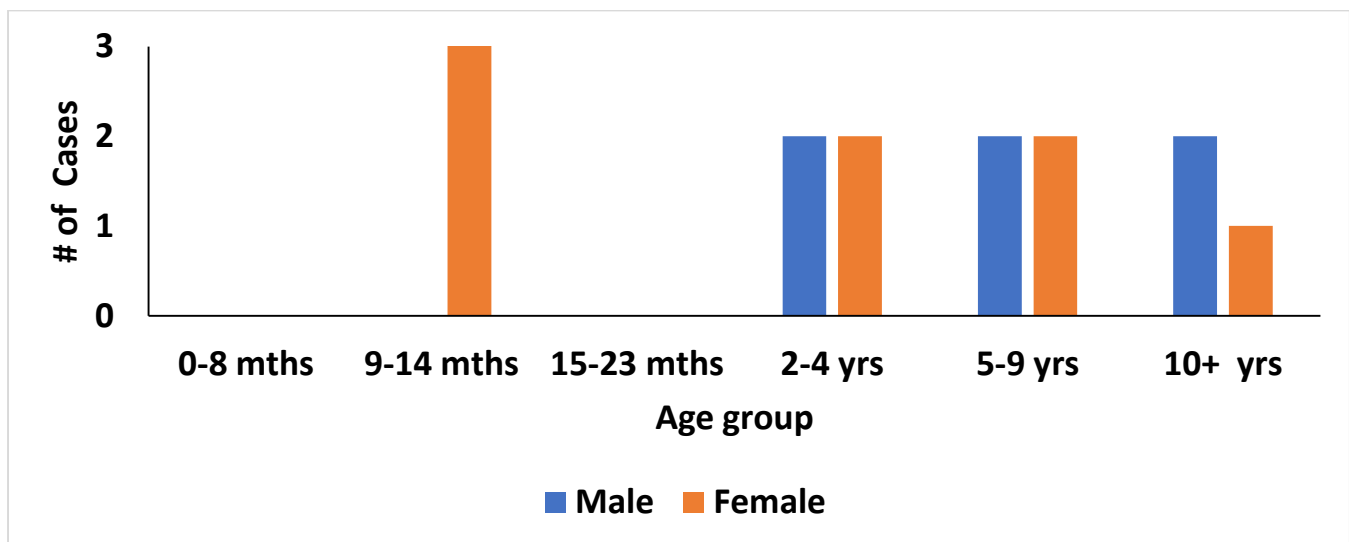
## Vaccine-Preventable Diseases

### Measles

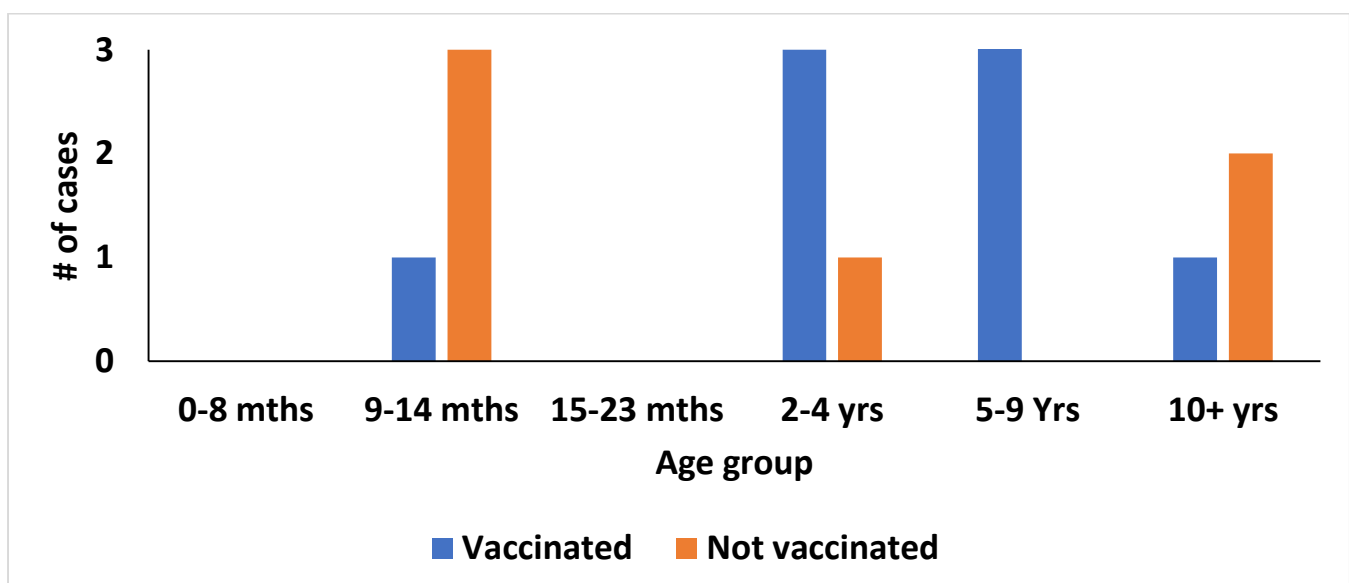
- ☞ Thirty-one (31) suspected cases were reported from Maryland (10), Grand Gedeh (8), Nimba (6), River Gee (3), Montserrado (2), Gbarpolu (1), and Grand Kru (1) counties
- ☞ Seventeen (17) specimens were collected, 1 tested positive and 16 pending testing
- ☞ Nineteen (19) persons were vaccinated
- ☞ Cumulatively, 79 have been reported
- ☞ Cumulatively, 6 confirmed have been reported

**Table 2: Distribution and vaccination Status of Measles Cases, Liberia, Epi-week 4, 2024**

County	# of cases	Vaccinated	Number of Doses Received		
			One Dose	Two Doses	Doses Not Indicated
Grand Cape					
Mount	1	1	0	1	0
Grand Gedeh	2	0	0	0	0
Maryland	5	1	1	0	0
Montserrado	1	1	1	0	0
Nimba	1	1	1	0	0
River Gee	5	5	4	0	1
<b>Total</b>	<b>15</b>	<b>9</b>	<b>7</b>	<b>1</b>	<b>1</b>



**Figure 2: Distribution of Measles Cases by Age Group and Sex, Liberia Epi Week 4, 2024**



**Figure 3: Vaccination Status of Suspected Measles Cases by Age Group, Liberia, Epi-Week 4, 2024**

## Current Outbreak

**Table 3: Status of Confirmed (lab, clinically confirmed and epi-linked) Measles Cases by County, Liberia, December 13, 2021 January 28, 2024**

COUNTY	CUMULATIVE SUSPECTED CASES	CUMULATIVE CONFIRMED CASES	CLASSIFICATION OF CONFIRMED CASES			CLASSIFICATION OF CONFIRMED DEATHS			CUMULATIVE DEATHS	CFR (%)	# CONFIRMED CASES WEEK 3	# CONFIRMED CASES WEEK 4	% CHANGE	Outbreak Status
			Lab confirmed	Epi Linked	Clinically Compatible	Lab confirmed	Epi Linked	Clinically Compatible						
Montserrado	5,456	5,373	145	1658	3,570	3	61	5	69	1.3	0	0	-	Ended
Nimba	1,137	1110	37	187	886	0	1	3	4	0.4	0	0	-	Ended
Margibi	827	803	34	136	633	0	0	1	1	0.1	0	0	-	Ended
Grand Bassa	962	924	40	212	672	1	0	6	7	0.9	0	0	-	Ended
Lofa	353	284	32	66	186	0	0	0	0	0	0	0	-	Ended
Bong	603	578	22	21	535	0	1	2	3	0.5	0	0	-	Ended
Maryland	1176	1156	24	308	824	0	0	0	0	0	5	11	120	Ongoing
Grand Gedeh	652	508	34	48	426	0	0	0	0	0	0	0	-	Ended
Sinoe	284	231	36	84	111	0	0	0	0	0	0	0	-	Ended
Bomi	183	147	34	27	86	1	2	2	5	3	0	0	-	Ended
Grd Cape Mt	215	187	17	18	152	0	2	1	3	1.6	0	0	-	Ended
Grand Kru	994	965	22	106	837	0	0	2	2	0.2	0	0	-	Ended
Gbarpolu	67	46	4	2	40	0	0	0	0	0	0	0	-	Ended
Rivercess	112	84	23	54	7	0	1	0	1	1.1	0	0	-	Ended
River Gee	103	79	0	0	79	0	0	0	0	0	0	0	-	Ended
<b>Total</b>	<b>13,113</b>	<b>12,475</b>	<b>504</b>	<b>2,927</b>	<b>9,044</b>	<b>5</b>	<b>68</b>	<b>22</b>	<b>95</b>	<b>7.8</b>	<b>5</b>	<b>11</b>		

**Table 4: Cumulative Distribution of Measles Cases and Deaths, December 13, 2021- January 28, 2024**

County	Total Cases	Active	Recovery	Deaths	# of Districts
Montserrado	5,373	0	5,304	69	0/7
Nimba	1,110	0	1,106	4	0/6
Grand Bassa	924	0	917	7	0/8
Margibi	803	0	802	1	0/4
Bong	578	0	575	3	0/9
Maryland	1156	11	1145	0	2/6
Lofa	284	0	284	0	0/6
Grand Kru	965	0	963	2	0/5
Grand Cape Mount	187	0	184	3	0/5
Bomi	147	0	142	5	0/4
Rivercess	84	0	83	1	0/6
Gbarpolu	46	0	46	0	0/5
Grand Gedeh	508	0	508	0	0/6
River Gee	79	0	79	0	0/6
Sinoe	231	0	231	0	0/10
<b>Total</b>	<b>12,475</b>	<b>11</b>	<b>12,369</b>	<b>95</b>	<b>2/98</b>

## Public Health Response

### **I. Coordination**

IMS meetings are being held for coordination and mobilization of resources in response counties

### **II. Epidemiological Surveillance**

Active case search and contact tracing ongoing in affected Districts (Pleebo and Harper) in Maryland County

### **III. Case management**

Case management ongoing in Maryland County

### **IV. Immunization**

Routine immunization intensified in affected districts (Pleebo, and Harper) in Maryland County

### **V. Laboratory**

Five hundred seven (507) cases have been confirmed by the NPHRL from December 13, 2021 – January 28, 2024.

### **VI. Risk Communication and Community Engagement**

Community engagement and health education in Maryland County

### **VII. Challenges**

Limited support for response in Maryland County

## Acute Flaccid Paralysis (AFP)

- ☞ Two (2) cases were reported from Lofa (1), and Gbarpolu (1) Counties
- ☞ Specimens collected, 1 shipped and 1 pending arrival for shipment
- ☞ Cumulatively, three (3) cases reported

## Neonatal Tetanus

- ☞ Zero cases were reported
- ☞ Cumulatively, two (2) cases have been reported

## ***Influenza-Like Illnesses***

### Coronavirus Disease (COVID-19)

- ☞ Zero suspected cases were reported

### Influenza

- ☞ Five (5) suspected cases were reported from Montserrado County
- ☞ Specimens were collected and pending testing
- ☞ Cumulatively, five (5) cases have been reported

## ***Viral Hemorrhagic Fever***

### Lassa fever

- ☞ Five (5) suspected cases were reported: Nimba (4 including 2 deaths), and Bong (1) Counties
- ☞ All five (5) specimens collected and tested negative
- ☞ Cumulatively, nineteen (19) suspected cases have been reported
  - Proportion of suspected cases with a sample collected (19/19) 100%
  - Proportion of suspected cases with sample tested (18/19) 95% (negative 17, Confirmed 1)

## ***Current Outbreak***

- ☞ No new confirmed case reported
- ☞ A total of 34 contacts including 13 healthcare workers under follow up
- ☞ Cumulative Case Fatality Rate (CFR): 29% (32/110)
- ☞ Two counties currently in outbreak (Bong and Nimba)

**Table 5: Summary of Lassa fever Outbreak, Liberia, January 6, 2022 - January 28, 2024**

County	Outbreak Districts	Outbreak Start Date	Total suspected cases	Total confirmed cases	Deaths in HCWs	Total Deaths	CFR %	Total Contacts	# HCW contacts	Contacts became cases	HCW became confirmed case	Contacts under follow up	Contacts completed	Days in countdown	Outbreak Status
Montserrado	Bushrod	13-Feb-23	15	2	0	1	50%	29	21	0	0	0	29	Completed	Over
	Central Monrovia	3-Mar-23	29	1	0	1	100%	28	27	0	0	0	28	Completed	Over
Bong	Suakoko	21-Apr-23	156	47	2	10	21%	480	194	6	18	7	410	Active	Ongoing
	Sanoyea	19-Sep-23	2	2	0	1	50%	36	18	0	0	0	37	Completed	Over
	Kokoya	3-Oct-23	1	1	0	0	0%	5	0	0	0	0	5	Completed	Over
	Jorquelleh	15-Oct-23	12	13	1	3	23%	121	86	3	3	0	169	Completed	Over
Grand Bassa	District 3A&B	21-Aug-23	86	32	0	9	28%	177	40	40	0	0	159	Completed	Over
	Buchanan	11-Aug-23	2	1	0	1	100%	4	2	0	0	0	0	Completed	Over
Nimba	Sanniquele-Mah	6-Feb-23	42	2	0	0	0%	43	35	8	0	0	43	Completed	Over
	Tappita	20-Nov-23	15	4	0	3	75%	72	39	4	0	14	50	Active	Ongoing
	Bain-Garr	1-Jun-23	10	3	0	3	100%	61	25	0	0	0	31	Completed	Over
Montserrado	Central Monrovia	27-Nov-23	1	1	0	0	0%	49	0	0	0	0	49	Completed	Over
<b>Total</b>			<b>371</b>	<b>109</b>	<b>3</b>	<b>32</b>	<b>29%</b>	<b>1105</b>	<b>487</b>	<b>61</b>	<b>21</b>	<b>21</b>	<b>1010</b>		

## Public Health Measures

### Coordination

- The National Public Health Institute of Liberia (NPHIL) and the Ministry of Health (MOH) are providing technical support to the surveillance teams (i.e. guidance on case investigation, contact tracing, situation report development, etc.) with support from partners.

### Surveillance:

- Active case search and contact tracing ongoing in affected communities and districts
- Weekly situation reports developed and disseminated to stakeholders at national and subnational level

### Laboratory

- The National Public Health Reference Laboratory continues testing of Lassa fever samples
- A total of 110 Lassa fever cases have been confirmed since this outbreak

### Case management and IPC

- Cases isolated and managed at designated facilities
- Ribavirin supply in country are being distributed for treatment of Lf cases to affected counties

### Environmental and Vector Control

- Clean-up campaigns and rodent control measures ongoing in affected Counties

### Risk Communication and Community Engagement

- Risk communication and community engagement ongoing in affected and surrounding communities

### Yellow fever

- ☞ Three (3) suspected cases were reported from River Gee (1), Maryland (1), and Grand Gedeh (1) Counties
- ☞ Three (3) specimens were collected and pending testing
- ☞ Cumulatively, six (6) cases have been reported
  - Proportion of suspected cases with samples collected (5/6) 83%
  - Proportion of suspected cases with samples tested (1/6) 17%

### Dengue Fever

- ☞ Zero suspected cases were reported
- ☞ Cumulatively, one (1) suspected case reported

### Ebola Virus Disease

- ☞ Zero cases were reported

## Diarrheal Diseases

### Acute Bloody Diarrhea (Suspected Shigellosis)

- Five (5) suspected cases were reported from Grand Gedeh (2), Sinoe (2), and Lofa (1) Counties
- One specimen was collected and pending testing
- Cumulatively, twenty-five (25) cases have been reported

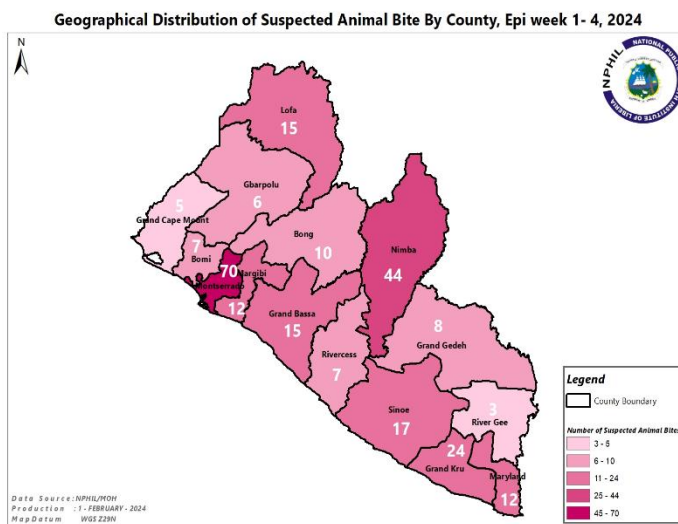
### Severe Acute Watery Diarrhea (Suspected Cholera)

- Seven (7) suspected cases were reported from Maryland (2), Lofa (1), Nimba (1), Gbarpolu (1), Bomi (1), and Grand Bassa (1) Counties
- Four specimens were collected and pending testing
- Cumulatively, fifteen (15) cases have been reported

## Other Reportable Diseases

### Animal bite (Human Exposure to Rabies)

- Seventy-seven (77) animal bite cases were reported from Montserrado (23), Grand Kru (11), Nimba (10), Lofa (6), Sinoe (6), Gbarpolu (5), Grand Bassa (3), Grand Gedeh (2), Bong (2), River Gee (2), Rivercess (2), Cape Mount (2), Margibi (1), Bomi (1), and Maryland (1) counties
- All bites were attributed to dog
- Proportion of cases investigated: 45/77 (58%)
  - Proportion of dogs vaccinated: 0/45 (0%)
- Cumulatively, 255 cases have been reported



### Public Health Actions

- All cases were clinically managed and sent home
- PEP Administered to 11 persons: Lofa (6), Bong (2), Rivercess (1), Maryland (1), and Nimba (1) counties
- Thirty-four (34) dogs restrained and undergoing 14 days' follow-up
  - All cases were investigated only by the human health surveillance team

## Tuberculosis

- Fourteen (14) confirmed cases were reported from Gbarpolu (4), Cape Mount (3), Grand Gedeh (3), Maryland (2), Bomi (1), and River Gee (1) counties
- All cases were categorized as drug susceptible TB
- Cumulatively, twenty-five (25) cases have been reported

## Meningitis

- Zero cases reported
- Cumulatively, Two (2) cases have been reported

## Mpox

- Zero cases reported
- Cumulatively, five (5) cases have been reported

## Unexplained cluster of deaths

- Zero cases reported

## Unexplained cluster of Health Events

- Zero cases reported

## Events of Public Health Importance

### Maternal Mortality

- ☞ Three (3) deaths were reported Montserrado (2), and Rivercess (1) Counties
- ☞ Reported causes: Anemia, Eclampsia, Hypotension
  - All the Maternal Deaths occurred at Health Facility (3/3) 100%
- ☞ Cumulatively, twenty-one (21) deaths reported
  - Proportion of deaths reviewed (9/21) 43%

### Neonatal Mortality

- ☞ Sixteen (16) deaths was reported from Montserrado (10), Rivercess (1), Margibi (1), Nimba (1), Gbarpolu (1), Grand Bassa (1), and Grand Gedeh (1) Counties
- ☞ Reported causes: Birth Asphyxia (6), Sepsis (6), Preterm (1), Neonatal Tetanus (1), Stillbirth (1), and Malaria (1)
  - Health Facility (13/16) 81%
- ☞ Community (3/16) 19%
- ☞ Cumulatively, thirty (30) deaths reported
  - Proportion of deaths reviewed (6/30) 20%

### Adverse Events Following Immunization (AEFI)/Adverse Drug Reaction (ADR)

- ☞ Fourteen (14) suspected cases were reported from Sinoe (5), Grand Kru (2), Montserrado (2), Grand Gedeh (2), Lofa (1), Gbarpolu (1), and Bomi (1) Counties
- ☞ All reported cases were classified as non-serious
- ☞ Related vaccine:
  - Penta (5/14) 36%
  - Typhoid Conjugate vaccine (4/14) 29%
  - J & J vaccine (3/14) 21%
  - Others (2/14) 14%
- ☞ cumulatively, sixty-nine (69) events were reported

## Neglected Tropical Diseases

### YAWS

- ☞ Zero cases were reported

### Buruli Ulcer

- ☞ Zero cases were reported

## Border Surveillance Update

A total of 5,723 travelers were recorded for the week with incoming travelers accounting for 49% (2785/5723)

**Table 6: Border activity at the PoE for incoming and outgoing travelers, Liberia, Epi week 4, 2024**

Type of Ports	Point of Entry	Weekly total	Arrival	Departure	Total travelers with YB	Yellow Book Damage	Card Replaced	Vaccinated against YF & Issued book	Alerts detected/ Verified	Evidence of COVID-19 vaccination card/certificate
Airport	James S. Paynes	77	28	49	18	0	0	0	0	20
	Robert Int'l Airport	4409	2122	2287	4393	12	4	0	0	4364
Seaport	Freeport of Monrovia	400	200	200	400	0	0	0	0	400
	Buchanan Port	34	17	17	34	0	0	0	0	34
Land Crossing	Bo Water Side	487	262	225	472	0	0	7	0	432
	Ganta	150	67	83	62	2	0	8	0	43
	Yekepa	51	25	26	15	0	0	0	0	21
	Loguatu	115	64	51	108	0	0	0	0	39
<b>Total</b>		<b>5,723</b>	<b>2,785</b>	<b>2,938</b>	<b>5,502</b>	<b>14</b>	<b>4</b>	<b>15</b>	<b>0</b>	<b>5,353</b>

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

## Public Health Measures

### National level

- ☞ Providing remote technical and operational support to counties
- ☞ Produced and disseminated situation reports (Lassa fever, Measles, and Mpox outbreaks)
- ☞ Produced and disseminate weekly bulletin

### County-level

#### ☞ Surveillance

- Publication of situational reports
- Active case search ongoing in affected and surrounding communities

#### ☞ Case Management

- Administration of PEP
- Management of measles and Lassa fever cases ongoing in affected counties



**Appendix**

**Summary of Immediately Reportable Diseases, Conditions, and Events by County**

		Bomi	Bong	Gbarpolu	Grand Bassa	Grand Cape Mount	Grand Gedeh	Grand Kru	Lofa	Margibi	Maryland	Montserrado	Nimba	Rivercess	River Gee	Sinoe	Total Weekly	Cumulative Reported	Cumulative Lab-confirmed		
<b>No. of Expected Health District</b>		4	9	5	8	5	6	5	6	4	6	7	11	6	6	10	98				
<b>No. of Health District Reported</b>		4	9	5	8	5	6	5	6	4	6	7	11	6	6	10	98				
<b>Vaccine Preventable Disease</b>	Acute Flaccid Paralysis (Suspected Polio)	A	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	2	3	0	
		D	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Measles	A	0	0	1	0	0	8	1	0	0	10	2	6	0	3	0	31	79	0	
		D	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Neonatal Tetanus	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	2	0	
		D	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Yellow fever	A	0	0	0	0	0	1	0	0	0	1	0	0	1	0	0	3	6	0	
		D	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<b>Viral Hemorrhagic</b>	Dengue fever	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	
		D	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Ebola Virus Disease	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		D	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Lassa fever	A	0	1	0	0	0	0	0	0	0	0	0	2	0	0	0	3	19	0	
		D	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	2	2	0	
<b>Influenza-Like</b>	COVID-19	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
		D	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Influenza Like Illnesses	A	0	0	0	0	0	0	0	0	0	5	0	0	0	0	0	5	5	0	
		D	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
<b>Diarrheal Disease</b>	Acute Bloody Diarrhoea (Shigellosis)	A	0	0	0	0	2	0	1	0	0	0	0	0	0	0	2	5	25	0	
		D	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Severe Acute Watery Diarrhoea (Cholera)	A	1	0	1	1	0	0	1	0	2	0	1	0	0	0	0	7	15	0	
		D	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
<b>Events of Public Health</b>	Maternal Mortality	D	0	0	0	0	0	0	0	0	0	2	0	1	0	0	3	21			
		D	0	0	1	1	0	1	0	0	1	0	10	1	1	0	0	16	30		
	AEFI	A	1	0	1	0	0	2	2	1	0	0	2	0	0	0	5	14	78	0	
		D	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Unexplained Cluster of Health Events/Disease	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
		D	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
<b>Other Reportable Diseases</b>	Mpox	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	0	
		D	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Tuberculosis	A	1	0	4	0	3	3	0	0	0	2	0	0	1	0	0	14	14	0	
		D	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Human Exposure to Rabies (Suspected Human)	A	1	2	5	3	2	2	11	6	1	1	23	10	2	2	6	77	255	0	
		D	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Meningitis	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	
		D	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Unexplained Cluster of deaths	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	D	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
<b>Neglected T</b>	Buruli Ulcer	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
		D	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Yaws	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
		D	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
<b>TOTAL</b>		<b>4</b>	<b>3</b>	<b>14</b>	<b>5</b>	<b>0</b>	<b>19</b>	<b>0</b>	<b>10</b>	<b>0</b>	<b>16</b>	<b>0</b>	<b>22</b>	<b>0</b>	<b>5</b>	<b>13</b>	<b>183</b>	<b>562</b>	<b>0</b>		

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

## Notes

- ☞ **Completeness** refers to the proportion of expected weekly IDSR reports received (target: ≥80%)
- ☞ **Timeliness** refers to the proportion of expected weekly IDSR reports received by the next level on time (target: ≥80%). The time requirement for weekly IDSR reports:
  - Health facility - required on or before 5:00 pm every Saturday to the district level
  - Health district - required on or before 5:00 pm every Sunday to the county level
  - County - required on or before 5:00 pm 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: ≥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 of 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 of 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 been 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

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### For comments or questions, please contact

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## National Public Health Institute of Liberia (NPHIL)

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

### VISION

A center of excellence to create health outcomes for Liberians through a strong preventive health system and expertise

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### Data sources

Data and information is provided by the fifteen County Surveillance Officers and National Public Health Reference Laboratory via regular weekly reports, telephone calls and email exchanges. Situations are evolving and dynamic therefore numbers stated are subject to change.