



# Liberia IDSR Epidemiology Bulletin

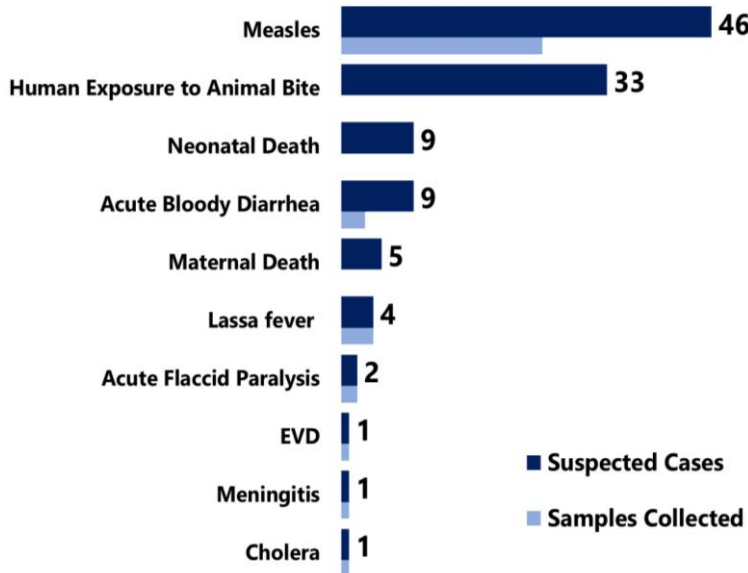
2018 Epi Week 25 (June 18 – 24, 2018)



Country Population: 4,373,279    Volume 10, Issue 25    June 18 – 24, 2018    Data Source: CSOs from 15 Counties and Lab

## Highlights

Figure 1. Public Health Events Reported in Epi week 25



## Keynotes and Events of Public Health Significance

- A total of **111** suspected cases of immediately reportable disease and events including **15** deaths were reported
  - *Eight of the cases were from previous weeks*
- Completeness and timeliness of health facility reports were **77%** respectively
- **Ongoing Lassa fever** outbreak in three counties
- **One confirmed case** of Acute bloody diarrhea from Sinoe County

## Reporting Coverage

Table 1. Weekly IDSR Reporting Coverage, Liberia, Epi week 25, 2018

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	55	47	47	85	85
Gbarpolu	16	14	14	88	88
Grand Bassa	33	5	5	15	15
Grand Cape Mount	34	18	18	53	53
Grand Gedeh	24	23	23	96	96
Grand Kru	19	10	10	53	53
Lofa	59	16	16	27	27
Margibi	50	50	50	100	100
Maryland	25	2	2	8	8
Montserrado	283	279	279	99	99
Nimba	74	33	33	45	45
Rivercess	19	19	19	100	100
River Gee	19	19	19	100	100
Sinoe	35	35	35	100	100
<b>Liberia</b>	<b>771</b>	<b>596</b>	<b>596</b>	<b>77</b>	<b>77</b>

**596(77%)**  
Health facilities reported IDSR data

**80 (87%)**  
Health districts reported IDSR data

**596(77%)**  
Health facilities out of 771 reported timely IDSR data

Legend	≥80	<80
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- Twelve of the fifteen counties submitted weekly IDSR report on time to national level
- Nimba, Bong and Margibi counties reported late
- The national target for weekly IDSR reporting is 80%

## Vaccine Preventable Diseases

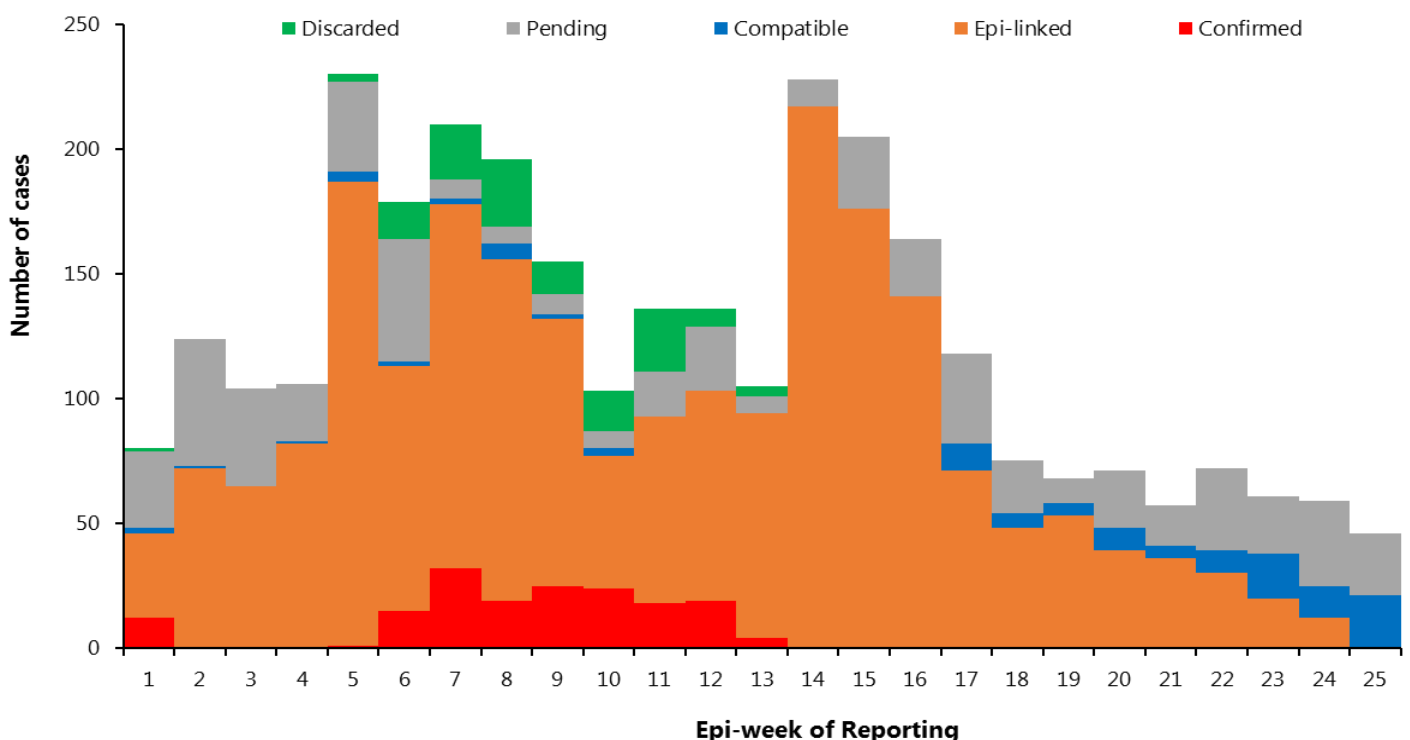
### Measles

- Forty-six (46) suspected cases of measles were reported from Grand Kru (22), Montserrado (5), Maryland (4), Grand Cape Mount (4), River Gee (3), Margibi (3), Nimba (2), Bong (1), Bomi (1), and Sinoe (1) Counties
- Twenty-five (25) specimens were collected and sent to the National Reference Laboratory pending laboratory confirmation while 21 cases were clinically compatible
- Of the forty-six (46) suspected cases, 12 (26%) were reported to have been previously vaccinated while 37(74%) had unknown status
- Age distribution among suspected cases are as follow: <1 year: 2 (4%), 1 – 4 years: 13(28%), ≥5 years: 31 (67%)
- Cumulatively, since Epi-week one, 3,337 suspected cases have been reported. Epi-classification among these cases are as follow: lab confirmed 179 (5.4%), Epi-linked 2,118 (63.5%), clinically compatible 380 (11.4%), discarded 152 (4.5%) and pending: 508 (15.2%)
- Of the 152 samples tested negative for Measles, 135 have been tested for Rubella; positive 53 (51%), and negative 82 (39%)

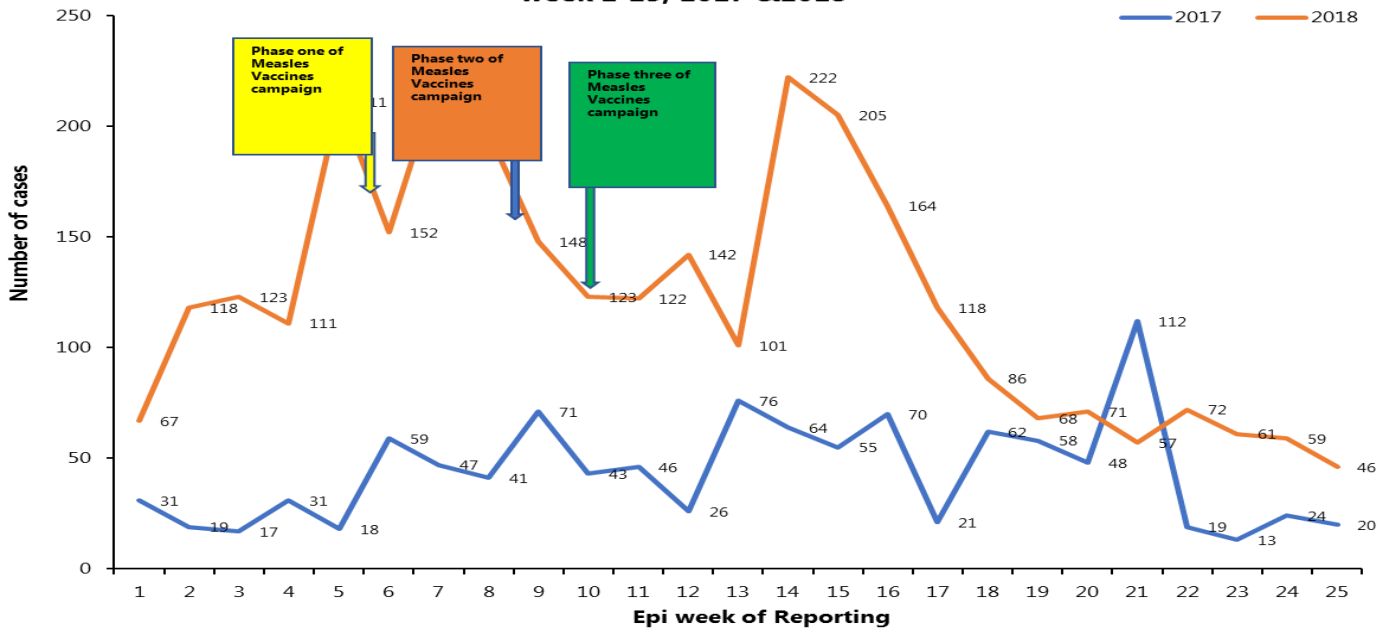
### Public Health Action

- Case management for all reported cases ongoing
- Active case search and community engagement are ongoing for all suspected cases

### Epi-classification of measles cases reported, Liberia, Epi-week 1 - 25, 2018



**Comparative weekly trend of suspected cases of Measles reported, Liberia, Epi week 1-25, 2017 & 2018**



### Acute Flaccid Paralysis (Suspected Polio)

- Two (2) Acute Flaccid Paralysis cases were reported from Bong (1) and Nimba (1) Counties of which specimen were collected
- Cumulatively, since Epi week one, 35 cases have been reported and 29 tested negative while 6 pending

**Table 2: Non-polio AFP rate/100,000 <15yrs, Liberia, Epi weeks 1 - 25, 2018**

County	<15 years pop	Cases Reported	Cases with Lab Result	Non-Polio AFP Rate	# of cases <14 days specimen collected	% of stool <14days	# of NPENTs	% of NPENT
Bomi	46598	1	1	4.5	1	100	0	0
Bong	184731	4	3	4.5	3	75	1	33
Gbarpolu	46193	1	1	4.5	1	100	1	100
Grand Bassa	122807	2	2	3.4	1	50	0	0
Grand Cape Mount	70393	1	1	3.0	1	100	1	100
Grand Gedeh	69386	1	1	3.0	1	100	0	0
Grand Kru	32081	1	1	6.5	1	100	0	0
Lofa	153368	6	5	8.1	6	100	0	0
Margibi	116287	2	2	3.6	2	100	0	0
Maryland	75303	2	1	5.5	2	100	0	0
Montserrado	619449	7	7	2.4	7	100	1	14
Nimba	255939	4	2	3.3	4	100	0	0
Rivercess	36998	1	1	5.6	0	0	1	100
River-Gee	39613	1	1	5.3	1	100	0	0
Sinoe	56719	1	0	3.7	1	100	0	0
<i>Liberia</i>	1925865	35	29	3.8	32	91	5	17
<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>		

## Neonatal Tetanus

- Zero cases of Neonatal tetanus was reported
- Cumulatively, since Epi-week one, 6 clinically diagnosed cases have been reported

## Viral Hemorrhagic Diseases

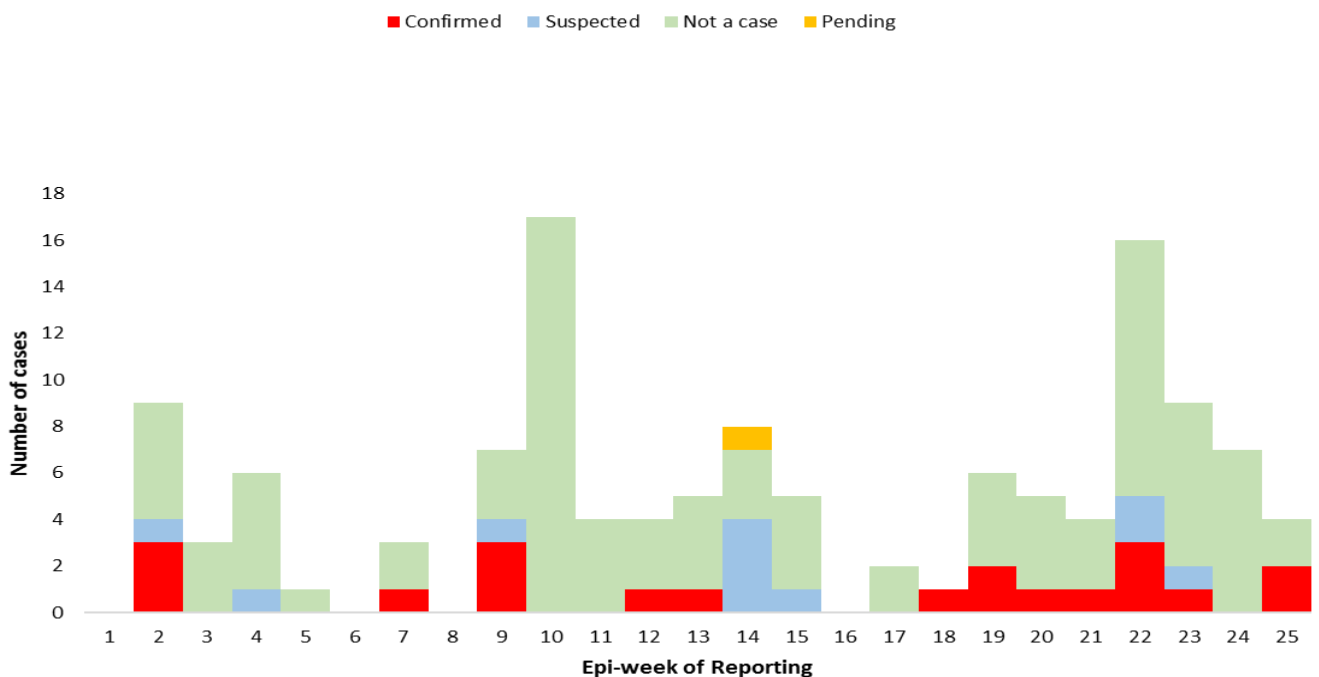
### Ebola Virus Disease (EVD)

- One (1) alert of EVD was reported from Grand Basa County
- Cumulatively, since Epi-week one, 23 EVD alerts have been reported and all tested negative by RT-PCR

## Lassa fever

- Four (4) suspected Lassa fever cases were reported from Nimba (3) and Lofa (1) Counties
- Four specimens were collected and tested; results showed two positive and two negative
- Cumulatively, since Epi week one, 127 suspected cases have been reported including 33 deaths
- A total of 116 suspected cases have been tested with 20 positive, 98 negative by RT-PCR and Case fatality rate in confirmed cases is 65% (13/20)

**Distribution of reported Lassa fever cases by week of report and Epi classification, Liberia, Epi-week 1 – 25, 2018**



## Yellow fever

- Zero cases of Yellow fever were reported
- Cumulatively, since Epi-week one, 53 suspected cases have been reported and 48 tested negative, two pending

## Monkeypox

- Zero cases of Monkeypox was reported
- Cumulatively, since Epi-week one, 4 suspected cases have been reported of which one specimen was collected pending testing



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## Meningitis

- One (1) suspected case of meningitis was reported from Grand Kru County
- Cumulatively, since Epi-week one, 37 suspected cases have been reported of which sixteen have been tested; two positive by RT-PCR for *Neisseria meningitidis serotype w*, thirteen negatives and one pending laboratory confirmation

## Events of Public Health Importance

### Maternal Mortality

- Five (5) maternal deaths were reported from Montserrado (2), Bong (1), Grand Gedeh (1) and Lofa (1) Counties
- Reported causes of death were: Post-partum Hemorrhage (1), Eclampsia (1), Severe Anemia (1), Unsafe Abortion and Obstructed Labor (1)
- All deaths were reported to have occurred in the health facilities
- Cumulatively, since Epi-week one, 140 maternal deaths have been reported (*see Table 3 for causes of death*)

**Table 3. Causes of reported maternal deaths, Liberia, Epi-week 1 – 25, 2018**

Causes	Number	Percent (%)
Post-partum hemorrhage	45	32.1
Anemia	18	12.9
Eclampsia	17	12.1
Sepsis	16	11.4
Cardio-pulmonary arrest	7	5.0
Obstructed labor	4	2.9
Retained placenta	4	2.9
Congestive heart failure	3	2.1
Ruptured ectopic	3	2.1
Renal failure	3	2.1
Abrutio placenta	3	2.1
Unsafe Abortion	3	2.1
Septic abortion	2	1.4
Embolism	2	1.4
Pulmonary embolism	2	1.4
Transfusion reaction	1	0.7
Epileptic	1	0.7
Induced Abortion	1	0.7
Pre-Eclampsia	1	0.7
Malaria in pregnancy	1	0.7
Hypertension	1	0.7
Anaphylactic shock	1	0.7
Immunosuppression	1	0.7
<b>Total</b>	<b>140</b>	<b>100</b>



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**Table 4. Cumulative Maternal Deaths Reported by Counties, Liberia, Epi-week 1 – 25, 2018**

County	Annual Live birth 4.3% (EPI 2018)	Current week	Cumulative	% of Cumulative Maternal deaths	Annualized Maternal Mortality Ratio/100,000
Bomi	4361	0	8	5.7	382
River Gee	3707	0	6	4.3	337
Bong	17289	1	25	17.9	301
Maryland	7048	0	8	5.7	236
Grand Gedeh	6494	1	7	5.0	224
Grand Kru	3002	0	3	2.1	208
Nimba	23953	0	17	12.1	148
Grand Bassa	11494	0	8	5.7	145
Gbarpolu	4323	0	3	2.1	144
Montserrado	57974	2	40	28.6	144
Grand Cape Mount	6588	0	3	2.1	95
Lofa	14354	1	6	4.3	87
Margibi	10883	0	4	2.9	76
Rivercess	3463	0	1	0.7	60
Sinoe	5308	0	1	0.7	39
<b>Liberia (National)</b>	<b>180241</b>	<b>5</b>	<b>140</b>	<b>100</b>	<b>162</b>

## Neonatal Mortality

- Nine (9) neonatal deaths were reported from Montserrado (4), Lofa (2), Sinoe (1), Nimba (1), and Margibi (1) Counties
- Causes of deaths were: neonatal sepsis (5), birth asphyxia (3) and preterm (1)
- All of the deaths were reported to have occurred in health facility
- Cumulatively, since Epi-week one, 359 neonatal deaths have been reported

**Table 5. Cumulative Neonatal Deaths Reported by Counties, Liberia, Epi-week 1 – 25, 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	10	3	6.9
River Gee	3707	0	11	3	6.2
Montserrado	57974	4	162	45	5.8
Bong	17289	0	45	13	5.4
Grand Gedeh	6494	0	14	4	4.5
Margibi	10883	1	22	6	4.2
Maryland	7048	0	14	4	4.1
Lofa	14354	2	28	8	4.1
Gbarpolu	4323	0	8	2	3.8
Rivercess	3463	0	6	2	3.6
Sinoe	5308	1	8	2	3.1
Grand Bassa	11494	0	12	3	2.2
Nimba	23953	1	16	4	1.4
Grand Cape Mount	6588	0	2	1	0.6
Bomi	4361	0	1	0	0.5
<b>Liberia (National)</b>	<b>180241</b>	<b>9</b>	<b>359</b>	<b>100</b>	<b>4.1</b>



## Human Exposure to Animal Bite (Suspected Rabies)

- Thirty-three (33) animal bite cases were reported from Montserrado (15), Bong (6), Nimba (4), Bomi (2), Lofa (2) Rivercess (2), River Gee (1) and Gedeh (1) Counties
- Cumulatively, since Epi-week one, 720 cases of animal bites have been reported in human of which three cases have been confirmed in animal.

## Acute Bloody Diarrhea (Shigellosis)

- Eight (8) suspected cases of acute bloody diarrhea were reported from Montserrado (2), Sinoe (2), Nimba (2), Rivercess (1) and Margibi (1)
- Three specimens collected; one tested positive and two negative
- Cumulatively, since Epi-week one, 251 suspected acute bloody diarrhea cases have been reported with stool specimens collected from 169 cases.
- Of the 169 specimens collected, 80 were tested; 18 positive for *shigella dysenteriae* and 62 negative.

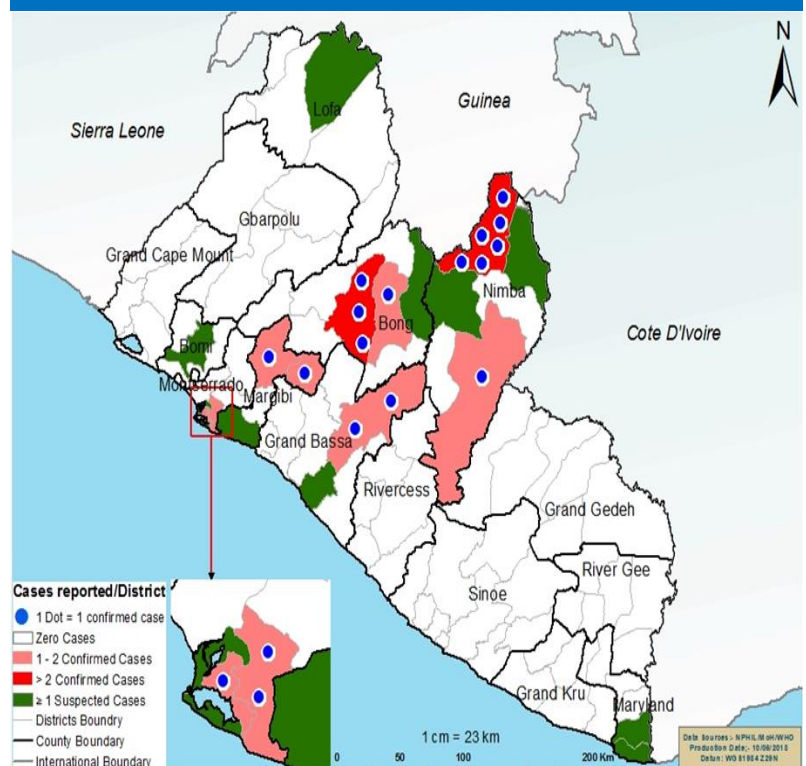
## Severe Acute Watery Diarrhea (Cholera)

- One (1) suspected cholera case was reported from Grand Kru County
- One specimen was collected and pending testing
- Cumulatively, since Epi-week one, 55 suspected cases of cholera have been reported of which 24 tested negative (*no growth of Vibrio cholera isolated*); specimens were not collected for 31 cases.

## Confirmed Lassa fever Outbreak

- **Since the last update:**
  - No new confirmed or suspected case was reported on 20 June 2018.
  - No new contact was line listed in the last 24 hours
- **Thirty-two (32)** contacts from Bong (Suakoko – 25, and Jorquelleh -7) completed 21 days follow up
- **Since May 4, 2018**, a total of nine confirmed cases including five deaths of Lassa fever have been reported from Nimba (3), Bong (3) Margibi (2), and Grand Bassa (1).
- **As of 20 June 2018**, Nimba, Bong and Grand Bassa Counties remain in active outbreak phase.
  - The case patient that was undergoing treatment at Phebe Hospital has been discharged on 12 June, 2018
  - A total of 128 contacts including 59 healthcare workers, has been listed and are being followed up (Nimba (33), Bong (71) and Grand Bassa (24)
  - 96 contacts remain under followed up, while 32 completed 21 days follow up
- There has been no **epidemiological linkage** established among the confirmed cases so far

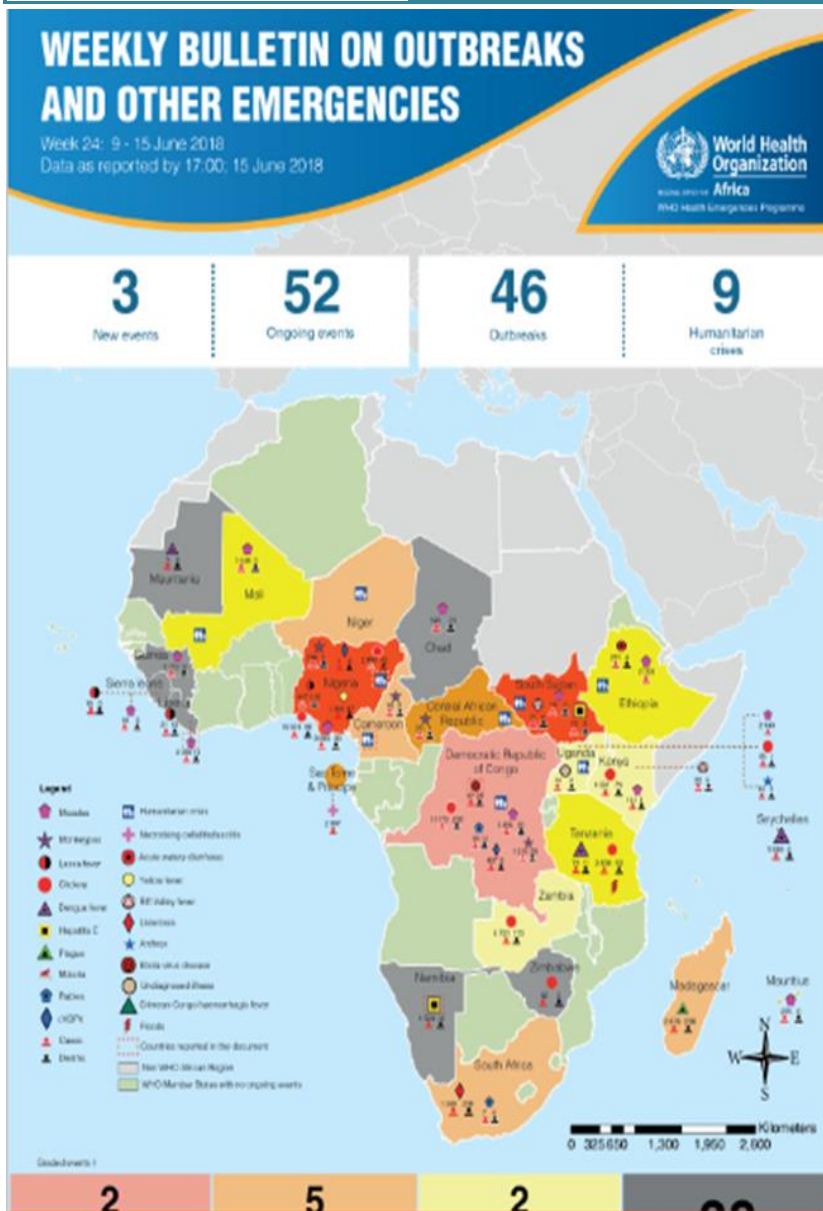
### Geographical distribution of Lassa fever cases reported, Liberia, 2018



## Points of Entry Update

Type of Ports	Point of Entry	Cumulative	Arrival	Departure	Nationality				Travellers Vaccinated		Vaccination		IDSR Alerts	Alerts Verified
					Liberian		Alien		Liberian	Alien	Travelers vaccinated	Yellow Book Issued		
					Arrival	Departure	Arrival	Departure						
Airport	James Spriggs Paynes	177	78	99	33	45	45	54	0	0	0	0	0	0
	Robert International Airport	2159	1451	708	540	595	911	113	3	4	0	20	0	0
Seaport	Freeport of Monrovia	156	78	78	0	0	78	78	0	0	0	0	0	0
	Buchanan Port	100	50	50	0	0	50	50	0	0	0	0	0	0
Ground Crossing	Bo Water Side	220	72	148	20	126	52	22	17	6	23	0	0	0
	Ganta	562	287	275	128	155	159	120	0	0	0	40	0	0
	Yekepa	45	24	21	10	15	14	6	0	0	0	0	0	0
	Loguatu	228	92	136	71	76	21	60	0	0	0	0	0	0
<b>Total Traveller for the Week</b>		<b>3647</b>	<b>2132</b>	<b>1515</b>	<b>802</b>	<b>1012</b>	<b>1330</b>	<b>503</b>	<b>20</b>	<b>10</b>	<b>23</b>	<b>60</b>	<b>0</b>	<b>0</b>

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

- Measles in Liberia
- Ebola virus disease in the Democratic Republic of the Congo
- Hepatitis E in Namibia
- Humanitarian crisis in north-east in Nigeria
- Humanitarian crisis in Cameroon

Source: WHO Afro week 25 outbreak bulletin





## Public Health Measures

### National level:

- Providing technical support to Counties
  - Follow up calls to Counties
  - Analysis of data for appropriate advice to Counties

### County level:

- Social mobilization jingles from MOH on Lassa fever are being played on two radio stations daily in Nimba County
- Environmental cleanup campaigns in communities intensified
- Health education have been provided to communities to seek early care

## 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

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## Immediately reportable diseases, conditions, and events by County during Epi week 25 and cumulative reports, Liberia, 2018

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	2	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
Bong	7	7	1	0	0	0	0	0	6	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0
Gbarpolu	5	5	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	3	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0
Grand Cape Mount	5	5	0	0	0	0	0	0	0	0	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Gedeh	6	6	0	0	0	0	0	0	1	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	1	0	0	0	0	0	22	0	1	0	0	0	0	0	0	0	0	0	0	0
Lofa	6	6	0	0	0	0	0	0	2	0	1	0	0	0	0	0	1	2	0	0	0	0	0	0	0	0
Margibi	4	4	0	0	1	0	0	0	0	0	0	0	3	0	0	0	0	1	0	0	0	0	0	0	0	0
Maryland	2	2	0	0	0	0	0	0	0	0	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0
Montserrado	7	7	0	0	2	0	0	0	15	0	0	0	5	0	0	0	2	4	0	0	0	0	0	0	0	0
Nimba	6	6	1	0	2	0	0	0	4	0	3	0	2	0	0	0	0	1	0	0	0	0	0	0	0	0
Rivercess	6	6	0	0	1	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
River Gee	4	4	0	0	0	0	0	0	1	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0
Sinoe	10	10	0	0	2	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0
<b>Total Weekly</b>	<b>80</b>	<b>80</b>	<b>2</b>	<b>0</b>	<b>8</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>33</b>	<b>0</b>	<b>4</b>	<b>0</b>	<b>46</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>5</b>	<b>9</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
<b>Cumulative Reported</b>			<b>35</b>	<b>0</b>	<b>251</b>	<b>0</b>	<b>55</b>	<b>0</b>	<b>720</b>	<b>0</b>	<b>127</b>	<b>10</b>	<b>3337</b>	<b>0</b>	<b>36</b>	<b>1</b>	<b>140</b>	<b>359</b>	<b>6</b>	<b>0</b>	<b>19</b>	<b>4</b>	<b>53</b>	<b>0</b>	<b>18</b>	<b>5</b>
<b>Cumulative Laboratory Confirmed</b>			<b>0</b>	<b>0</b>	<b>15</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>5</b>	<b>13</b>	<b>177</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>0</b>	<b>0</b>

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

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**Partners: CDC & WHO**

## 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

Epidemiological bulletin published with support of WHO and CDC

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