



# Liberia IDSR Epidemiology Bulletin

Epi-week 15 (April 11 - 17, 2022)

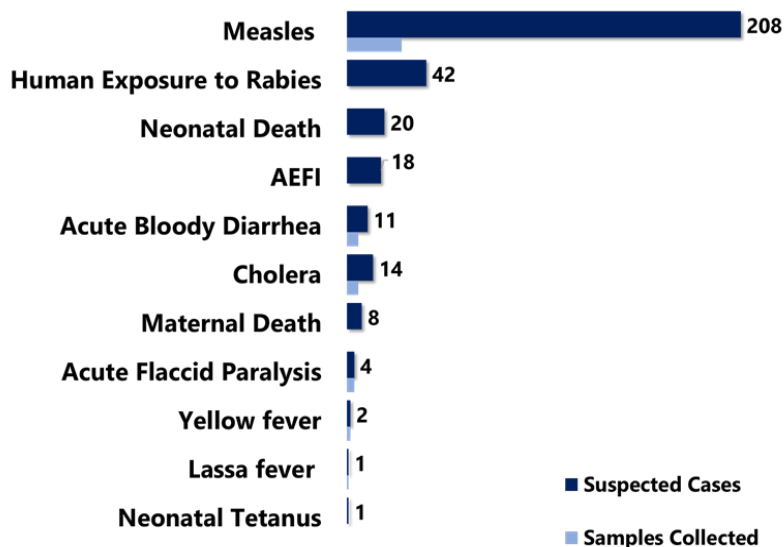
Country Population: 5,104,413 || Volume 14 Issue 15 | April 11-17, 2022

Data Source: CSOs from 15 Counties and Laboratory

## Highlights

Figure 1: Public Health Events Reported during this week

### Keynotes and Events of Public Health Significance



- ♦ A total of **329** events of public health importance including **33** deaths were reported
- ♦ Completeness and timeliness of health facility reports were **99%** and **99%**
- ♦ **Ongoing Lassa fever** outbreak in one county
- ♦ **Ongoing Measles** outbreak in twelve counties

\*Adverse Events Following Immunization /Adverse Drug Reaction

## Reporting Coverage

Table 1: Health Facility Weekly DSR Reporting Coverage, Liberia, Epi Week 15, 2022

County	Expected Reports from HF*	Reports Received	Received on Time	Completeness (%)	Timeliness (%)
Bomi	26	26	26	100	100
Bong	57	57	57	100	100
Gbarpolu	16	15	15	94	94
Grand Bassa	36	36	36	100	100
Grand Cape Mount	34	34	34	100	100
Grand Gedeh	24	24	24	100	100
Grand Kru	23	23	23	100	100
Lofa	66	66	66	100	100
Margibi	56	56	56	100	100
Maryland	27	27	27	100	100
Montserrado	334	326	326	98	98
Nimba	91	91	91	100	100
Rivercess	21	21	18	100	86
River Gee	20	20	20	100	100
Sinoe	37	37	37	100	100
<b>Liberia</b>	<b>868</b>	<b>859</b>	<b>856</b>	<b>99</b>	<b>99</b>

859(99%)  
Health facilities reported IDSR data

93 (100%)  
Health districts reported IDSR data

856 (99%)  
Health facilities reported timely IDSR

- ♦ The national target for weekly IDSR reporting is 80%. Health facility timeliness is monitored at health district level
- ♦ All counties submitted weekly IDSR reports to the national level on times.

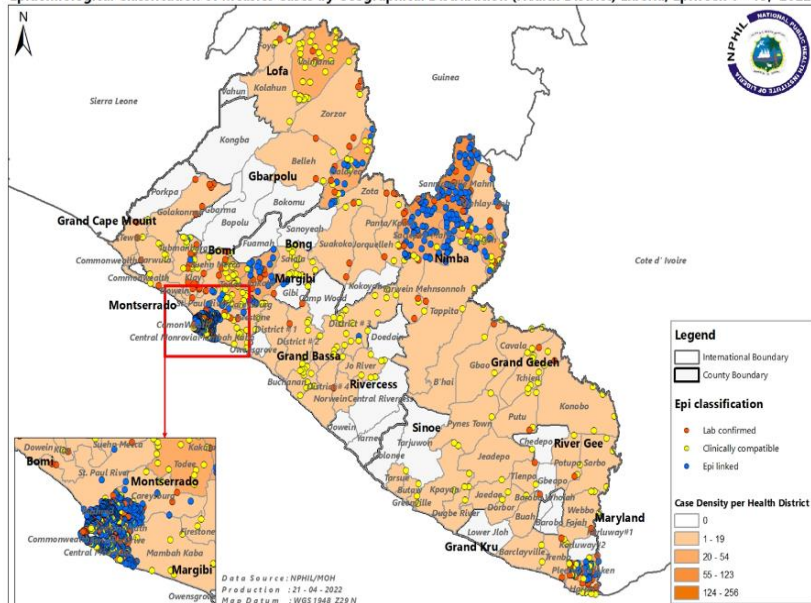
Legend: ≥80 <80

## Vaccine Preventable Diseases

### Measles

- ✎ Two hundred-eight (208) suspected cases were reported from Montserrado (122), Nimba (22), Grand Bassa (18), Lofa (15), Margibi (12), Grand Gedeh (7), Bong (4), Grand Cape Mount (3), Bomi (3), Rivercess (1), and Sinoe (1) counties
- ✎ Of these cases, five deaths were reported: Montserrado (3), Bomi (1) and Grand Bassa (1) counties
- ✎ Twenty-nine (29) specimens collected and pending testing
- ✎ Vaccination status among suspected cases
  - Vaccinated - 96 (46%)
  - Not vaccinated - 88 (42%)
  - Unknown - 24 (12%)
- ✎ Age distribution among suspected cases
  - < 5 years: 116 (56%)
  - ≥ 5 years: 92 (44%)

Epidemiological Classification of Measles Cases by Geographical Distribution (Health District) Liberia, Epiweek 1 - 15, 2022



- ✎ Cumulatively, one thousand eight hundred seventy-four (1,874) cases have been reported including 18 deaths
  - Confirmed: 1,659 (89%)
    - ✓ Laboratory confirmed: 228
    - ✓ Clinically compatible: 430
    - ✓ Epidemiologically linked: 1,001
  - Non-measles discarded cases: 215
  - Proportion of samples collected: 32% (608/1,874)
  - Proportion of samples tested: 73% (443/608)

## Outbreak

### Measles: (Situation update as of the 13th December 2021-April 17, 2022)

#### Montserrado County: Commonwealth, Bushrod, Somalia Drive, St. Paul and Central Monrovia Todee and Careysburg Districts

- ✎ One hundred twenty-two (122) new suspected cases reported for the week
  - Bushrod (46), Todee (29), Commonwealth (26), Somalia Drive (11), Central Monrovia (8), and Careysburg (2)
- ✎ A total of 843 suspected cases line listed up to date
  - 97 laboratory confirmed
  - Range 6 months - 48 years
  - Death: 12
  - CFR in lab confirmed 2% (2/97)
  - All reported cases are undergoing treatment



# Liberia IDSR Epidemiology Bulletin

Epi-week 15 (April 11 - 17, 2022)

## Vaccination status among lab confirmed:

- Vaccinated by record - 41% (40/97)
- Not vaccinated – 42% (41/97)
- Unknown - 17% (16/97)

## Bong County: Suakoko, Zota, Salala and Panta Districts

- 👉 Four (4) new suspected cases reported from Salala District
- 👉 A total of 99 suspected cases have been recorded including two (2) deaths
  - Six (6) laboratory confirmed
  - Range 9 months-35 years
  - 17% (1/6) not vaccinated

## Lofa County: Voinjama, Zorzor and Salayea districts

- 👉 Thirteen (13) new suspected cases reported
  - Salayea (9), and Voinjama (4)
- 👉 A total of ninety-seven (97) suspected cases have been recorded
  - Six (6) laboratory confirmed
  - 100% (6/6) vaccinated
  - Range 2 months-27 years

## Nimba County: Saclepea-Mah, Sanniquellie-Mah, Gbehlay Geh, and Zoe-Geh Districts

- 👉 Twenty (20) new suspected cases reported for the week under review
  - Saclepea-Mah- (11), Sanniquellie-Mah (7), and Gbehlay-Geh (2)
- 👉 A total two hundred seventeen (217) cases line listed
  - Twenty-five (25) laboratories confirmed
  - Range 2 months-45years
  - 44% (11/25) vaccinated

## Grand Bassa County: District # 1, district # 2 and Buchanan Districts

- 👉 Thirteen (13) new cases reported
  - Buchanan (8), and District #1 (5)
- 👉 A total of 82 cases have been recorded
  - Two (2) laboratories confirmed
  - Range 1 month-43 years
  - 50% (1/2) vaccinated
  - Death- (1)



# Liberia IDSR Epidemiology Bulletin

Epi-week 15 (April 11 - 17, 2022)

## **Margibi County: Firestone, Kakata and Mamba Kaba Districts (Situation update as of 28 February -17 April, 2022)**

- 👉 Fourteen (14) new cases reported
  - Kakata (10), Mamba Kaba (3), and Firestone (1)
- 👉 A total of 116 suspected cases reported
  - Twenty (20) laboratory confirmed
  - Range 4 months - 43 years
  - 18 (90 %) were vaccinated

## **Bomi County: Suehn Mecca, Senjeh, Dowein, and Klay Districts (Situation update as of 7 March- 17 April, 2022)**

- 👉 Two (2) new cases recorded from Senjeh District
- 👉 A total of 45 cases have been recorded
  - Sixteen (16) laboratory confirmed
  - Range 1 month-67 years
  - 50% (4/8) were vaccinated
  - Death (2)
  - CFR in Lab. Confirmed 6% (1/16)

## **Grand Cape Mount County: Gola Konneh (Situation update as of 10 March - 17 April, 2022)**

- 👉 Two (2) new cases recorded
- 👉 A total of 19 cases have been reported
  - Nine (9) laboratory confirmed
  - Range 5 months-22 years
  - 88% (7/8) were vaccinated

## **Maryland County: Harper and Pleebo Districts**

- 👉 No new case reported
- 👉 A total of 72 suspected cases have been recorded
  - Fifteen (15) laboratory confirmed
  - Range 2 months-48 years
  - 93% (14/15) vaccinated

## **Gbarpolu: Belle District**

- 👉 No new case reported
- 👉 A total of 8 suspected cases recorded
  - One (1) laboratory confirmed
- 👉 Range 4-50 years
- 👉 Unknown Vaccination status

## **Rivercess: (Situation update as of 16 March 17-April, 2022)**

- 👉 No new case reported from Joe Rive
- 👉 A total 8 suspected cases reported



# Liberia IDSR Epidemiology Bulletin

Epi-week 15 (April 11 - 17, 2022)

## Grand Kru: Trehn District (Situation update as of 14bMarch 17-April, 2022)

- 👉 No new case reported
- 👉 A total of 14 suspected cases reported
  - Two (2) laboratories confirmed
  - Range 10 months- 16 years
  - 100% (2/2)

## Public Health Actions

- 👉 Case investigation, active case search and line listing ongoing
- 👉 Case management ongoing
- 👉 Radio talk show ongoing in (Lofa County)

## Challenges

- Lacked of essential medications such as; Amoxicillin, Erythromycin, Vitamin A and Calamine Lotion Cream for case management (Grand Kru and Gbarpolu) counties
- Stock out of measles vaccines and vitamin A, in some counties (Bong and Margibi Counties)
- Limited specimen collection kits (Margibi County)
- Limited medical supplies for case management

## Acute Flaccid Paralysis (AFP)

- 👉 Four (4) cases reported from Nimba (2), Montserrado (1), and Grand Gedeh (1) Counties
  - Specimens collected for all cases and shipped
- 👉 Cumulatively, thirty-four (34) AFP cases have been reported with positive confirmation

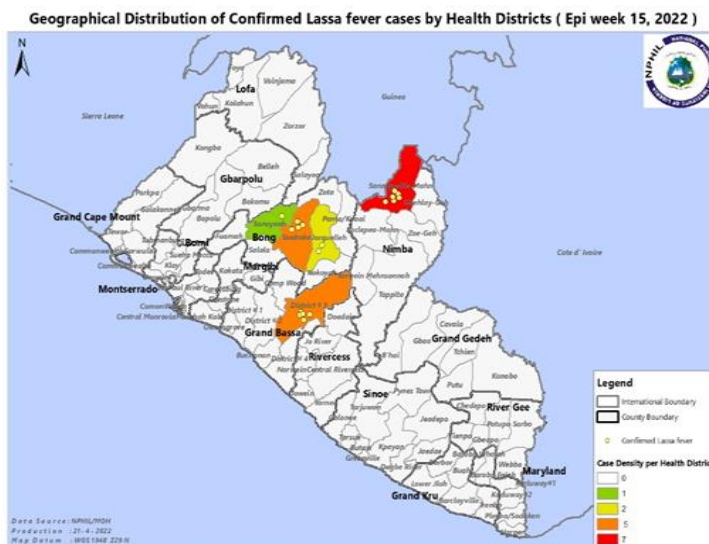
## Neonatal Tetanus

- 👉 One (1) case was reported from Grand Bassa County
- 👉 Cumulatively, nineteen (19) clinically diagnosed cases reported
  - CFR 16%

## Viral Hemorrhagic Diseases

### Lassa fever

- 👉 One (1) laboratory confirmed case reported from Bong County
- 👉 Cumulatively, fifty-three (53) suspected cases have been reported including 9 deaths
  - Twenty-one (21) confirmed cases recorded including 7 deaths
  - CFR 33%
  - Proportion of suspected cases with sample collected 100% (53/53)
  - Proportion of suspected cases with sample tested 100% (53/53)





# Liberia IDSR Epidemiology Bulletin

Epi-week 15 (April 11 - 17, 2022)

## Outbreak

### Lassa Fever Disease: (sitrep update as of April 11-17, 2022)

One (1) county currently in Outbreak: Bong

Two (2) counties completed countdown: Grand Bassa and Nimba

### **Bong County: Suakoko District**

👉 One new confirmed case reported on April 19, 2022

- The case is a 19-year-old female from Sinyea Town, Suakoko District
- Administration of Ribavirin started on April 16, 2022
- Specimen was collected and sent on April 16, 2022 to the National Public Health Reference Laboratory
- A positive Lab result was received on April 18, 2022
- 8 contacts including 6 HCWs has been generated
- Daily follow up ongoing with contacts

👉 Nine (9) cases confirmed cumulatively with 22% CFR (n=2/9)

👉 Cumulatively, 112 contacts including 64 HCWs have been line listed; 83 of these contacts have completed 21-day follow-up

👉 29 contacts including 11 HCWs are under 21-day of follow up

### **Public Health Actions**

👉 Health educational interventions

- Daily health talk in all health facilities on priority diseases
- Airing of LF preventive and control messages

👉 Case management

- Isolation of cases
- Administration of ribavirin

👉 Surveillance

- Active case search ongoing in all 9 health districts
- Daily sitreps shared regularly to national level

## Yellow fever

👉 Two (2) suspected cases reported from Grand Kru County

👉 Specimens collected and pending testing

👉 Cumulatively, thirty (30) suspected cases reported

- Proportion of suspected cases with sample collected 90% (27/30)
- Proportion of suspected cases with sample tested 27% (8/30)

## Diarrheal Diseases

### Acute Bloody Diarrhea (Suspected Shigellosis)

👉 Eleven (11) suspected cases were reported from Grand Gedeh (5), Montserrado (3), Grand Bassa (1), Lofa (1), and Grand Cape Mount (1), Counties

- Six (6) specimens collected and pending testing

👉 Cumulatively, two hundred six (206) suspected cases reported

- Eighty-five (85) specimens collected
  - ✓ 61 negative, 1 positive, 7 pending and 6 rejected



# Liberia IDSR Epidemiology Bulletin

Epi-week 15 (April 11 - 17, 2022)

## Severe Acute Watery Diarrhea (Suspected Cholera)

- 📁 Fourteen (14) suspected cases reported from Rivercess (5), Bong (3), Bomi (2), River Gee (2), Grand Gedeh (1) and Nimba (1) Counties
  - Six (6) specimens collected, transported to National Public Health Reference Laboratory (NPHRL) & pending testing
- 📁 Cumulatively, one hundred-twenty-four (124) suspected cases reported
  - 65 specimens collected
    - ✓ 24 tested negatives
    - ✓ 8 pending
    - ✓ 3 rejected

## Other Reportable Diseases

### Animal bite (Human Exposure to Rabies)

- 📁 Forty-two (42) animal bite cases reported Nimba (9), Lofa (8), Montserrado (7), Maryland (3), Margibi (3), Grand Kru (3), Grand Cape Mount (2), Rivercess (2), Grand Bassa (1), River Gee (1), Bong (1), Bomi (1), and Sinoe (1) counties
  - 21% (9/42) persons received PEP
- 📁 Cumulatively, seven hundred thirty-three (733) animal bite cases reported
  - Dog bites account for 100%
  - 1-4 doses (PEP) administered to about 16% (115/733) of patients

## Public Health Actions

- 📁 Administration of post exposure prophylaxis

## Meningitis

- 📁 Zero case reported
- 📁 Cumulatively, fourteen (14) suspected cases reported
  - one confirmed

## Monkeypox

- 📁 Zero suspected cases reported
- 📁 Cumulatively, seven (7) suspected cases reported, two (2) specimens collected pending shipment

## Events of Public Health Importance

### Maternal Mortality

- 📁 Nine (9) deaths reported: Montserrado (5), Grand Gedeh (2; 1 retrospective of epi-wk-14), Margibi (1) and Bong (1) counties
  - Cause of death: post-partum hemorrhage (3), Sepsis (2), Obstructed labor (1), and 2 pending investigations
  - Seven (7) deaths occurred at the health facility
- 📁 Cumulatively, ninety-six (96) deaths reported
  - The proportion of deaths reviewed was 43% (41/96)
  - The proportion of community deaths 15% (14/96)
    - proportion of community deaths reviewed: 71% (10/14)





# Liberia IDSR Epidemiology Bulletin

Epi-week 15 (April 11 - 17, 2022)

## Neonatal Mortality

- 📁 Twenty (20) deaths reported from Bong (9), Montserrado (5), Bomi (3), Nimba (1), Gbarpolu (1) and Grand Kru (1) Counties
  - Causes of death: Birth asphyxia (15) and Sepsis (5)
  - All deaths occurred at the health facility
- 📁 Cumulatively, two hundred thirty-nine (239) deaths have been reported
  - The proportion of deaths reviewed 26% (63/239)
  - The Proportion of community deaths 3% (8/239)
    - proportion of deaths reviewed from community 38% (3/8)

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

- 📁 Eighteen (18) cases reported from Grand Kru (6), River Gee (3), Grand Cape Mount (3), Bomi (3), Grand Bassa (2) and Montserrado (1) counties
- 📁 Cumulatively: One hundred ten (110) events reported with 88% (97/110) related to COVID-19
  - Proportion of J&J - 80% (88/110)
  - Proportion of AstraZeneca - 5% (6/110)
  - Proportion of Pfizer - 4% (4/110)
  - Proportion of other related events -11% (12/110)

## Public Health Actions

- 📁 All events were investigated, categorized as *non-serious AEFI and symptomatically treated*
- 📁 Active case search and community engagement ongoing

## Unexplained death

- 📁 Zero case reported

## Border Surveillance Update

**Table2: Border activity at the PoE for Incoming and Outgoing Travelers, Liberia, epi-week 15 2022**

📁 A total of 13,845 travelers recorded for the week with incoming travelers accounting for 73% (13,845/19,046)

Type of Ports	Point of Entry	Weekly total	Arrival	Departure	Yellow Book Issued	Yellow Book Damage	Card Replaced	Travelers Vaccinated	Alerts detected/ Verified	COVID-19 Reactive	Fully vaccinated for COVID-19
Airport	James S. Paynes	60	42	18	0	0	0	0	0	0	5
	Robert Int'l Airport	11032	9411	1621	30	24	0	6	0	0	11012
Seaport	Freeport of Monrovia	198	99	99	0	0	0	0	0	0	99
	Harper	0	0	0	0	0	0	0	0	0	0
	Buchanan Port	120	60	60	0	0	0	0	0	0	60
Land Crossing	Bo Water Side	587	244	343	0	0	0	0	0	0	0
	Ganta	390	186	204	0	0	0	0	0	0	0
	Yekepa	191	89	102	0	0	0	0	0	0	0
	Loguatu	232	113	119	0	0	0	0	0	0	0
	Yeala	510	280	230	0	0	0	0	0	0	0
	Kpazagizzia	308	110	198	0	0	0	0	0	0	0
	Safedu	554	389	165	0	0	0	0	0	0	0
	Konadu	922	529	393	0	0	0	0	0	0	0
	Bolongoidu	826	531	295	0	0	0	0	0	0	0
	Lawalazu	0	0	0	0	0	0	0	0	0	0
	Foya Tengia	771	383	388	0	0	0	0	0	0	0
	Sorlumba	647	479	168	0	0	0	0	0	0	0
	Mendicoma	1070	610	460	0	0	0	0	0	0	0
	Worsonga	628	290	338	0	0	0	0	0	0	0
<b>Total travelers</b>		<b>19,046</b>	<b>13,845</b>	<b>5,201</b>	<b>30</b>	<b>24</b>	<b>0</b>	<b>6</b>	<b>0</b>	<b>0</b>	<b>11176</b>

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





# Liberia IDSR Epidemiology Bulletin

Epi-week 15 (April 11 - 17, 2022)

## Public Health Measures

### National level

- 👉 Providing technical, logistical, and financial support to counties
  - Publication of situational reports
  - 3<sup>rd</sup> edition IDSR training conducted in Sinoe County for 82 participants from 41 health facilities including Administration of PEP and ribavirin
  - Management of all cases as per disease ongoing
  - Ensure the appropriate medical protocol in place
- 👉 Operational Activity
  - Continued support for operational activities ongoing

### County level

#### 👉 Surveillance

- Quarantine and monitoring of domestic animal (Dog) and cases possibly exposed to rabies
- Publication of situational reports
- Active case search ongoing in affected and surrounding communities

#### 👉 Case Management

- Administration of PEP and ribavirin
- Management of all cases as per disease ongoing
- Ensure the appropriate medical protocol in place
- Isolation of cases

# Appendix

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

Counties			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
No. of Expected Health District			4	9	5	8	5	6	5	6	4	6	7	6	6	6	10	93		
No. of Health District Reported			4	9	5	8	5	6	5	6	4	6	7	6	6	6	10	93		
Vaccine Preventable Diseases	Acute Flaccid Paralysis (Suspected Polio)	A	0	0	0	0	0	1	0	0	0	0	1	2	0	0	0	4	38	0
		D	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Measles	A	3	4	0	18	3	7	0	15	12	0	119	22	1	0	1	205	1871	1659
		D	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0	3	3	0
	Neonatal Tetanus	A	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	16	0
		D	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0
	Yellow fever	A	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	2	30	0
		D	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Viral Hemorrhagic Fever	Dengue fever	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
	Ebola Virus 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
	Lassa fever	A	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	46	21
		D	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7	7
Influenza-Like Illnesses	COVID-19	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	546	7400
		D	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	294
Diarrheal Diseases	Acute Bloody Diarrhoea (Shigellosis)	A	0	0	0	1	1	5	0	1	0	0	3	0	0	0	0	11	206	1
		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	2	3	0	0	0	1	0	0	0	0	0	1	5	2	0	14	124	0
		D	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Events of Public Health Importance	Maternal Mortality	D	0	1	0	0	0	1	0	0	1	0	5	0	0	0	0	8	96	
	Neonatal Mortality	D	3	9	1	0	0	0	1	0	0	0	5	1	0	0	0	20	239	
	Adverse Events Following Immunization (AEFI)	A	3	0	0	2	0	3	6	0	0	0	1	0	0	3	0	18	110	0
		D	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	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
Other Reportable Diseases	Monkeypox	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7	0
		D	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Tuberculosis	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
	Human Exposure to Rabies (Suspected Human Rabies)	A	1	1	0	1	2	0	3	8	3	3	7	9	2	1	1	42	733	0
		D	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
	Meningitis	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	14	0
		D	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Neglected Tropical Diseases	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
TOTAL			12	19	1	23	6	18	12	24	16	3	144	35	8	6	2	329	4091	9382

D = Dead A = Alive

## 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

Epidemiological bulletin published with support from WHO and CDC

### For comments or questions, please contact

Ralph W. Jetoh, MD, MPH  
**Director**

Infectious Disease and Epidemiology Division  
National Public Health Institute of Liberia  
Republic of Liberia

Email: [ralphica2000@gmail.com](mailto:ralphica2000@gmail.com)

Phone: +231 886526388/777372655

Website: [www.nphil.gov.lr](http://www.nphil.gov.lr)

## National Public Health Institute of Liberia (NPHIL)

### MISSION

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

## EDITORIAL TEAM

### DIDE / NPHIL

A. N. Mianah  
I. P. Pewu  
T. O. Yeabah  
J. S. Kokro  
E. Dwalu  
G. B. Williams  
S. K. Zayzay  
L. W. Colee  
M. Tegli  
T. L. Hall  
S. L. Flomo  
M. S. Quiah  
C. T. Yeah  
L. K. Seepoe  
J. O. Abel  
P. J. Thomas  
H. M. Sherman  
A. B. Corvah  
M.D. Vaye  
N. K. Dovillie  
A. Coker  
S. Nuwolo  
J. Kokro

### Ministry of Health

## 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.