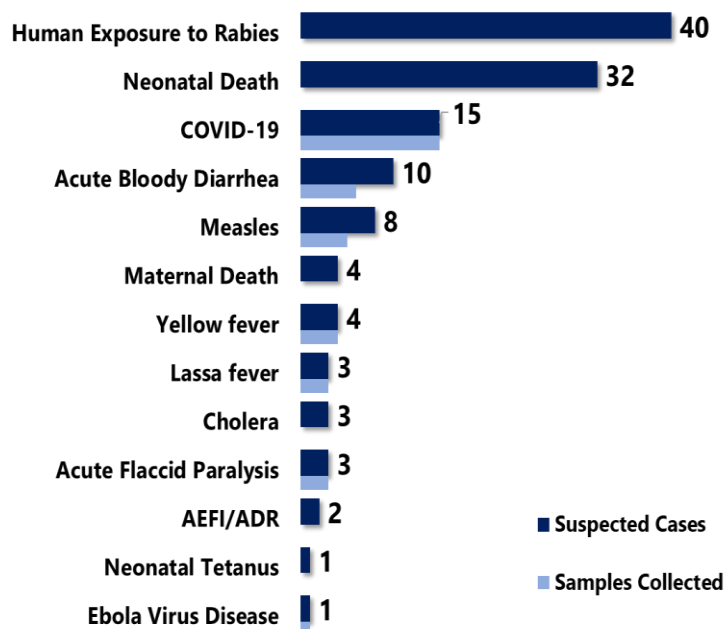


Highlights

Figure 1: Public Health Events Reported during this week



Keynotes and Events of Public Health Significance

- ♦ A total of **126** events of public health importance including **40** deaths reported
- ♦ Completeness and timeliness of health facility reports were both **100%**
- ♦ **Lassa fever** outbreaks in Montserrado and Grand Bassa Counties
- ♦ **Fifteen (15)** new confirmed COVID-19 cases recorded from one county
- ♦ **Adverse Events Following Immunization** surveillance heightened following the introduction of new vaccines (nOPV2, TCV, COVID-19)
- ♦ **Ongoing EVD preparedness engagement** initiated at all levels

Reporting Coverage

Table 1: Health Facility Weekly DSR Reporting Coverage, Liberia, Epi week 17, 2021

County	Expected Report	Reports Received	Received on Time	Completeness (%)	Timeliness (%)
Bomi	26	26	26	100	100
Bong	57	52	52	100	100
Gbarpolu	15	15	15	100	100
Grand Bassa	36	36	36	100	100
Grand Cape Mount	34	34	34	100	100
Grand Gedeh	24	24	24	100	100
Grand Kru	22	22	22	100	100
Lofa	61	61	61	100	100
Margibi	55	55	55	100	100
Maryland	27	25	25	100	100
Montserrado	367	367	367	100	100
Nimba	91	91	91	100	100
Rivercess	20	20	20	100	100
River Gee	20	20	20	100	100
Sinoe	37	37	37	100	100
Liberia	891	891	891	100	100

891(100%)
Health facilities reported IDSR data

93(100%)
Health districts reported IDSR data

891(100%)
Health facilities reported timely IDSR data

- ♦ 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 national on time

Legend: ≥80 <80

Vaccine Preventable Diseases

Measles

Eight (8) suspected cases were reported from Nimba (4), Grand Kru (2), Grand Gedeh (1), and Montserrado (1) Counties

- Five (5) specimens were collected and pending laboratory confirmation

Vaccination status among suspected cases

- Vaccinated: 4 (50%)
- Not vaccinated: 2(25%)
- Unknown: 2 (25%)

Age distribution among suspected cases

- <5 years: 7 (88%)
- ≥5 years: 1 (13%)

Cumulatively, since Epi week one, one hundred forty (140) suspected cases have been reported

Epi-classification is as follows: 86 confirmed (16 lab-confirmed, 59 clinically confirmed, 11 epi-linked), 52 negatives and 2 indeterminate (equivocal)

Figure 2: Geographical Distribution of Reported Measles Cases by Health Districts, Liberia, Epi week 1 – 17, 2021

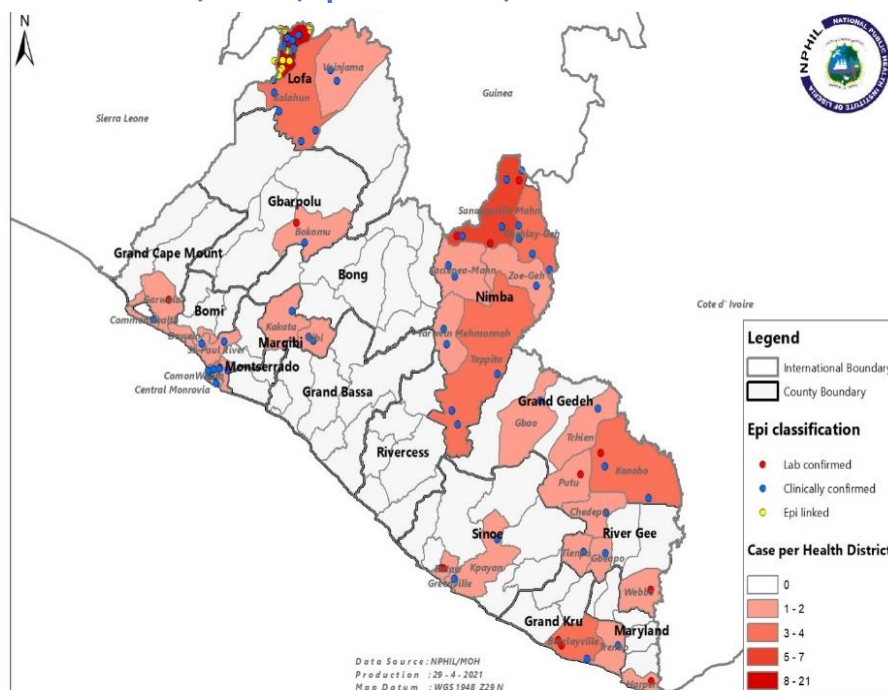
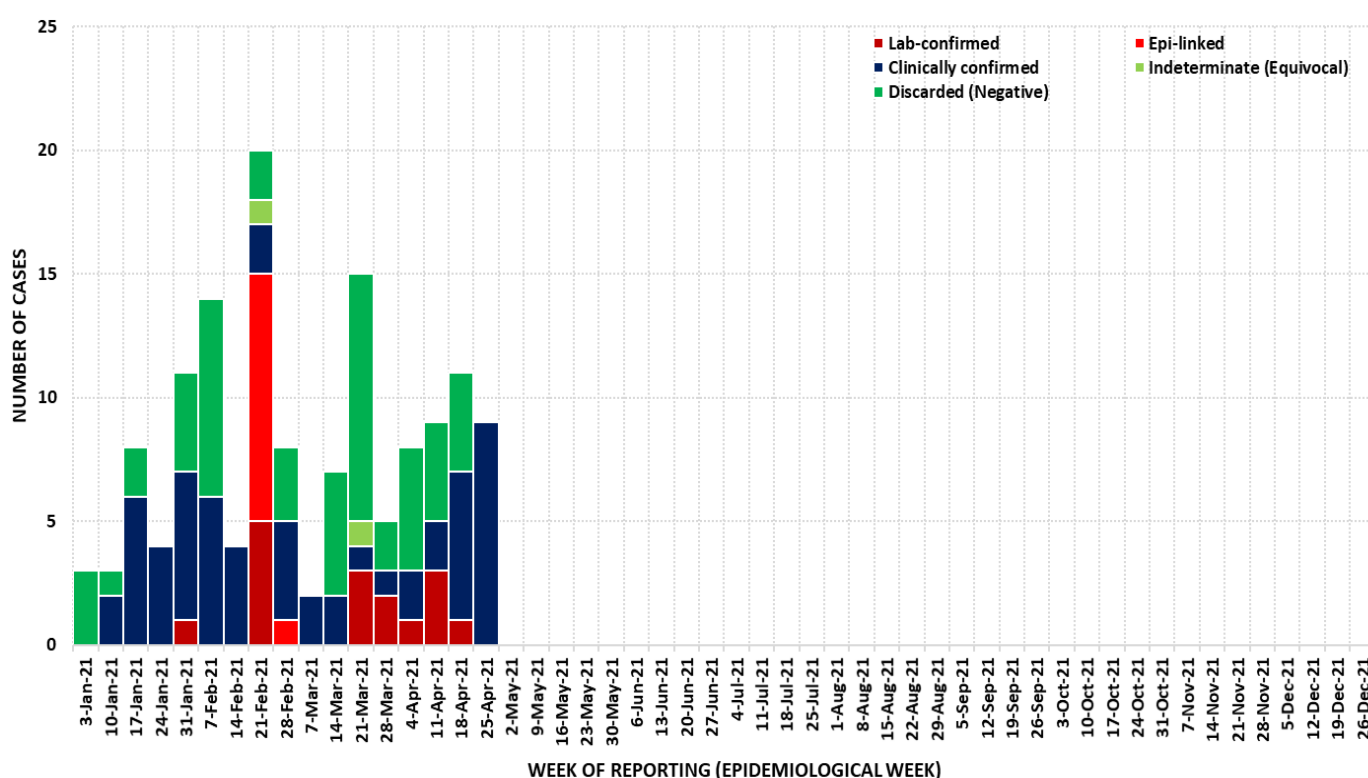


Figure 3: Count of Measles Cases by Week of Reporting and Epi-classification, Liberia, Epi week 1 - 17, 2021



Acute Flaccid Paralysis

- Three (3) cases were reported from Grand Bassa (1), Montserrado (1), and Nimba (1) Counties
- Three specimens were collected, shipped and pending testing
- Cumulatively, since Epi week one, 56 Acute Flaccid Paralysis cases have been reported
 - Of the total, 50 specimens have reached the national level and onward shipment process completed (see Table 2)
- Epi-classification is as follows: 49 clinically confirmed, 5 discarded (negative) and 2 NPENT
- As of week 17, non-polio AFP rate is at 7.4 per 100,000 population in less than 15 years of age

Table 2: Non-polio Acute Flaccid Paralysis Rate per 100,000 <15yrs, Liberia, Epi week 1 - 17, 2021

County	< 15 years pop	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	49595	2	0	12.3	2	100%	0	0.0%
Bong	204820	8	0	11.9	8	100%	2	25.0%
Gbarpolu	49162	2	0	12.4	2	100%	0	0.0%
Grand Bassa	130703	4	1	9.4	4	100%	0	0.0%
Grand Cape Mount	74927	2	1	8.2	2	100%	0	0.0%
Grand Gedeh	73848	0	0	0.0	0	0%	0	0.0%
Grand Kru	34151	2	0	17.9	2	100%	0	0.0%
Lofa	162671	8	0	15.0	8	100%	0	0.0%
Margibi	123772	5	1	12.4	5	100%	0	0.0%
Maryland	80145	1	1	3.8	1	100%	0	0.0%
Montserrado	681600	12	3	5.4	12	100%	0	0.0%
Nimba	272406	3	1	3.4	3	100%	0	0.0%
Rivercess	42160	0	0	0.0	0	0%	0	0.0%
River Gee	39381	1	0	7.8	1	100%	0	0.0%
Sinoe	60373	0	1	0.0	0	0%	0	0.0%
Liberia	2079713	50	9	7.4	50	100%	2	4.0%
Non-Polio AFP Rate	<2			<80%	Non-Polio Enterovirus	<10%		Silent
	≥ 2			≥80%		≥10%		

Note: Further investigation of nine AFP cases of the cumulative cases are ongoing to ascertain the status of these cases

Neonatal Tetanus

- One (1 dead) was reported from Bong County
- Cumulatively, since Epi week one, eight (8) cases have been reported

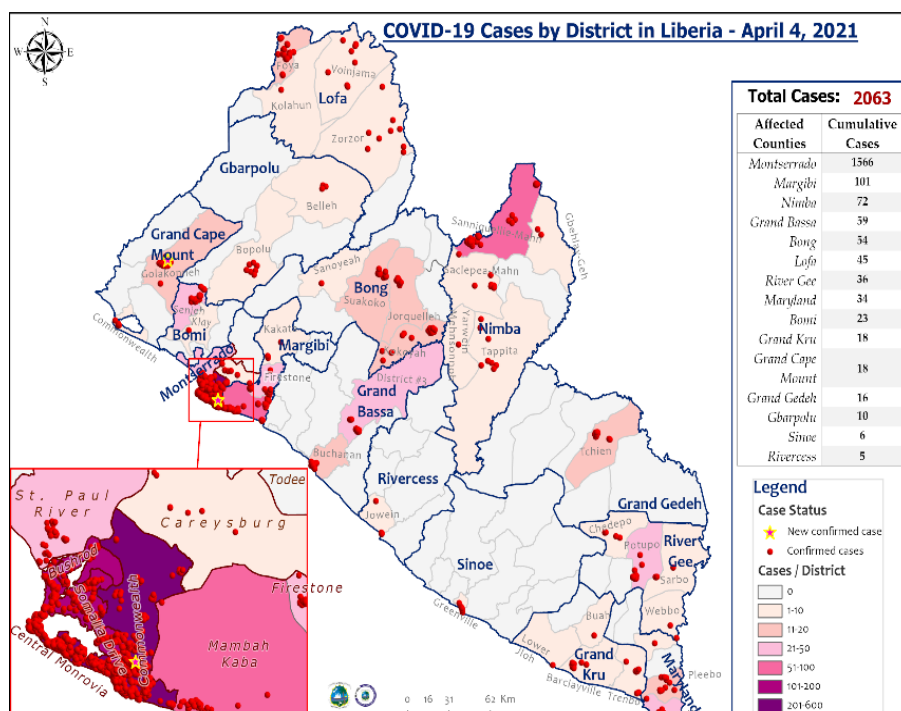
Influenza-Like Illnesses

Coronavirus Disease (COVID-19)

Outbreak

- Fifteen (15) new confirmed cases were reported from Montserrado County with male accounting for 73.3%
- Since Epi week one, a total of two hundred-eighty (280) confirmed cases have been reported
- Cumulatively, two thousand ninety-eight (2,098) confirmed cases recorded including 85 deaths

Figure 2: Geographical Distribution of Laboratory Confirmed COVID-19 Cases by Health Districts, Liberia, Epi week 1 – 17, 2021



Public Health Actions

- Daily IMS coordination meeting on-going
- Surveillance activities including active case search, contact tracing and case investigation on-going in affected counties using WHO interim guidelines
- Reinforcing hand washing in all public areas (markets, health facilities, public offices, checkpoints etc.)
- Case management ongoing for confirmed cases
- Compulsory testing among outgoing and incoming travelers ongoing

Viral Hemorrhagic Diseases

Lassa fever

- ☞ Three (3) suspected cases (including 1 death) was reported from Montserrado (dead), Bong and Grand Bassa Counties
- ☞ Specimens were collected and tested: 1 negative and 1 positive (Montserrado)
- ☞ Cumulatively, since Epi week one, thirty-three (33) suspected cases have been reported including eight (7) deaths
 - 5 positive, 23 negative and 6 specimens not collected
 - Proportion of suspected cases with sample collected 82% (28/34)
 - Proportion of suspected cases with sample tested 100% (28/28)

* Six suspected cases have been delisted due to lack of specimen collection: Bong (5) and Grand Bassa (1) Counties

Outbreak

Central Monrovia, Montserrado County

- One new confirmed case
 - 13-year-old male who lives with his parent in Gbecohn town, Bong County
 - Onset of illness was April 9, presented with fever, and no medical attention after 24 hours
 - The case further complained of stomach pain and loss of appetite and started vomiting with blood at home on April 14 and was admitted to the Gbecohn Town Clinic
 - On April 16, the case was referred to Phebe Hospital and diagnosed of peptic ulcer
 - On April 20, the case was referred by means of a public transport to the JFK Memorial Hospital
 - Thirteen (13) contacts line listed in Montserrado including 6 healthcare workers while 20 contacts line listed in Bong County with 8 from Suakoko and 12 from Kokoya districts

District 3A&B, Grand Bassa County

- ☞ Case have been discharged from the medical facility and follow up is ongoing by the District Health Team

Public Health Actions

- ☞ IPC assessment conducted to reinforce IPC practices
- ☞ Active case search and community engagement ongoing

Yellow fever

- ☞ Four (4) suspected cases were reported from Grand Kru (2), Grand Gedeh (1), and Lofa (1) Counties
- ☞ Specimens were collected and pending testing
- ☞ Cumulatively since Epi week one, thirty-seven (37) suspected cases have been reported with 17 negative, 15 pending testing and 5 specimens were not collected
 - Proportion of suspected case with sample collected 70% (26/37)
 - Proportion of suspected case with sample tested 65% (17/26)

Monkeypox

- ☞ Zero suspected case was reported
- ☞ Cumulatively since Epi week one, one (1) suspected case reported

Ebola Virus Disease

- ☞ One alert was reported from Lofa County
- ☞ Specimen was collected and tested negative
- ☞ Cumulatively since Epi week one, sixteen (16) alerts have been reported: 15 tested negative and 1 specimen not collected
 - Proportion of suspected case with sample collected 94% (15/16)
 - Proportion of suspected case with sample tested 94% (15/16)

Diarrheal Diseases

Acute Bloody Diarrhea (Suspected Shigellosis)

- ☞ Ten (10) cases were reported from Nimba (3), Lofa (2), Grand Gedeh (2), Bomi (2) and Rivercess (1) Counties
 - Six specimens were collected and pending testing

☞ Cumulatively, since Epi week one, one hundred and thirty-two (132) suspected shigellosis cases have been reported with 45 specimens collected, 10 tested negative and thirty-five (35) pending laboratory testing

Severe Acute Watery Diarrhea (Suspected Cholera)

- ☞ Three (3) suspected cases were reported from Lofa (3) County
- ☞ No specimen was collected
- ☞ Cumulatively, since Epi week one, forty- six (46) suspected cholera cases have been reported

Other Reportable Diseases

Animal Bites (Human Exposure to Rabies)

- ☞ Forty (40) animal bite cases were reported from: Maryland (10), Montserrado (7), Margibi (6), Grand Kru (6), Nimba (4), Grand Gedeh (3) Lofa (2) and Grand Bassa (2) Counties
 - No prophylaxis administered at health facilities
- ☞ Cumulatively, since Epi week one, five hundred and twenty-nine (569) animal bite cases have been reported

Meningitis

- ☞ Zero suspected case was reported
- ☞ Cumulatively, since Epi week one, eighteen (18) suspected cases have been reported

Events of Public Health Importance

Maternal Mortality

- ☞ Four (4) deaths were reported from Montserrado (2), Lofa and Rivercess (1) Counties
- ☞ Causes of death: Postpartum Hemorrhage (2), Sepsis (1), Anemia (1)
- ☞ Health facility accounted for 75% (3)
- ☞ Community death accounted for 25% (1)
- ☞ Cumulatively, since Epi week one, seventy-six (76) deaths have been reported (*see Table 3*)

Table 3: Cumulative Maternal Deaths Reported by Counties, Liberia, Epi week 1 - 17, 2021

Reporting Counties	Current Week	Cumulative Maternal Death	% of Cumulative Maternal Death	Annualized Maternal Mortality Ratio
Bomi	0	2	3	129
Bong	0	9	12	141
Gbarpolu	0	0	0	0
Grand Bassa	0	5	7	122
Grand Cape Mount	0	1	1	43
Grand Gedeh	0	2	3	87
Grand Kru	0	0	0	0
Lofa	1	3	4	59
Margibi	0	4	5	103
Maryland	0	1	1	40
Montserrado	2	32	42	150
Nimba	0	11	14	129
Rivercess	1	1	1	76
River Gee	0	0	0	0
Sinoe	0	5	7	265
Liberia	4	76	100	117

Note: The estimated maternal mortality ratio for 2019-20 LDHS is 742 maternal deaths per 100,000 live births. 4.3% of the overall population

Neonatal Mortality

- ☞ Thirty-two (32) deaths were reported from Montserrado (15), Bomi (4), Grand Gedeh (4), Nimba (2), and Gbarpolu (2), River Gee (1), Lofa (1), Grand Kru (1), Maryland (1) and Bong (1) Counties
- ☞ Causes of deaths: Birth asphyxia (18), Neonatal sepsis (9), Prematurity (2), Neonatal tetanus (1), Anemia (1), Unknown (1) pending investigation
- ☞ Health facility accounted for 97% (31) while community accounted for 3% (1)
- ☞ Cumulatively, since Epi week one, two hundred and sixty-three (263) deaths have been reported

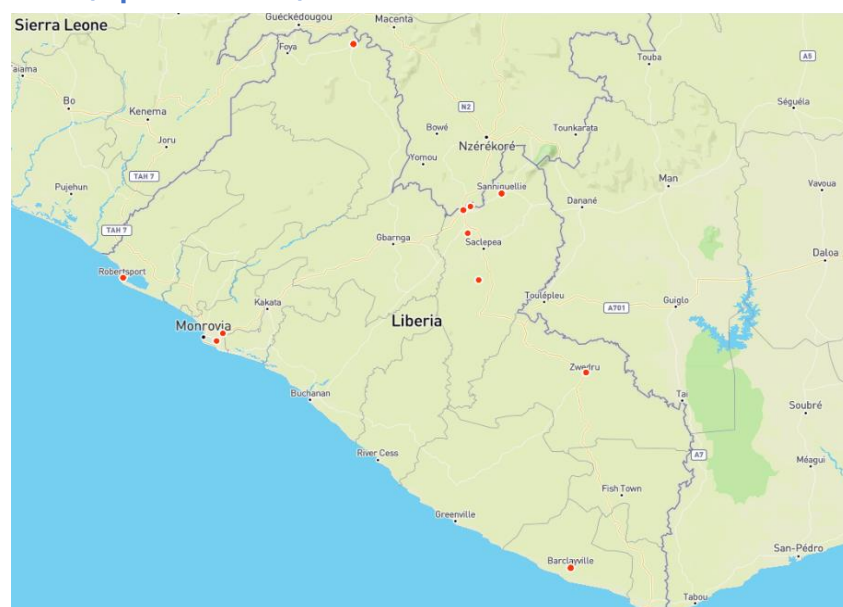
Unexplained Death

- ☞ Zero (0) deaths were reported
- ☞ Cumulatively, since Epi week one, one (1) death has been reported

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

- ☞ Two cases were reported from Bomi (1), Grand Cape Mount (1) Counties
- ☞ Cumulatively, since Epi week one, thirty-(36) events have been reported with Lofa County accounting for 50%
 - 47% of the events related to nOPV2
 - 37% of the events related to TCV
 - 16% of the events related to ADR

Figure 3: Geographical Distribution of Reported AEFI/ADR Events, Liberia, Epi week 1 – 17, 2021



Public Health Actions

- ☞ All events were investigated, with two of the events categorized as *serious AEFI and being treated symptomatically*
- ☞ All reporting tools are currently being distributed across the 15 counties
- ☞ Active case search for AFP and community engagement ongoing

Cross Border Surveillance Update

- ☞ A total of 4,414 travelers recorded for the week with incoming travelers accounting for 39% and outgoing travelers 54%
- ☞ None of the travelers were reactive for COVID-19

Table 2: Cross border activity at the PoE for Incoming and Outgoing Travelers, Liberia, Epi week 17, 2021

Type of PoE	Point of Entry	Weekly Total	Arrival	Departure	Yellow Book Issued	Yellow Book Damaged	Card Replaced	Travelers Vaccinated	Alerts Verified	COVID-19 Reactive
Airport	James S. Paynes	73	48	27	0	0	0	0	0	0
	Robert International Airport	2262	1038	1226	10	10	0	0	0	0
Seaport	Freeport of Monrovia	172	86	86	0	0	0	0	0	0
	Harper	0	0	0	0	0	0	0	0	0
	Buchanan Port	84	42	42	0	0	0	0	0	0
Land Crossing	Bo Water Side	1264	225	730	0	0	0	0	0	0
	Ganta	456	238	218	15	15	0	0	0	0
	Yekepa	86	31	55	4	4	0	0	0	0
	Longuatu	17	7	10	0	0	0	0	0	0
Total travelers		4,414	2,011	2,408	29	29	0	0	0	0



Liberia IDSR Epidemiology Bulletin

2021 Epi-week 17 (April 19 - 25, 2021)



Public Health Measures

National level

- ✎ Providing technical, logistical and financial support to counties
- ✎ Heighten surveillance in affected and surrounding communities
- ✎ Publishing situational reports to inform stakeholders

County level

- ✎ Publication of situational reports to inform stakeholders
- ✎ Active case search ongoing in affected and surrounding communities
- ✎ Contact tracing, health education, and community engagement ongoing in affected communities
- ✎ Case management ongoing for isolated 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	1	0	0	0	0	0	0	1	1	0	0	0	3	56	0
		D	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Measles	A	0	0	0	0	0	1	2	0	0	0	1	4	0	0	0	8	140	16
		D	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	0	3	0
		D	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	8	0
	Yellow fever	A	0	0	0	0	0	1	2	1	0	0	0	0	0	0	0	4	37	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	1	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	0	0
	Lassa fever	A	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	2	27	3
		D	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	7	2
Influenza-Like Illnesses	COVID-19	A	0	0	0	0	0	0	0	0	0	0	15	0	0	0	0	15	280	280
		D	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Diarrheal Diseases	Acute Bloody Diarrhoea (Shigellosis)	A	2	0	0	0	0	2	0	2	0	0	0	3	1	0	0	10	132	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	0	0	0	0	0	0	0	3	0	0	0	0	0	0	0	3	46	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	0	0	0	0	0	0	1	0	0	2	0	1	0	0	4	76	
	Neonatal Mortality	D	4	1	2	0	0	4	1	1	0	1	15	2	0	1	0	32	263	
	Adverse Events Following Immunization (AEFI)	A	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	2	36	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	1	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	1	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 Animal bites (Suspected Rabies)	A	0	0	0	2	0	3	6	2	6	10	7	4	0	0	0	40	569	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	18	0
		D	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Unexplained Cluster of Death	D	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	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			7	3	2	4	1	11	11	11	6	11	42	14	2	1	0	126	1717	301

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
- 👉 **Non-serious AEFI** refers to an event that is not 'serious' and does not pose a potential risk to the health of the recipient and should be carefully monitored because they may signal a potentially larger problem with the vaccine or immunization or have an impact on the acceptability of immunization in general.
- 👉 **Serious AEFI** refers to an event that results in death, is life-threatening, requires in-patient hospitalization or prolongation of existing hospitalization, results in persistent or significant disability/incapacity, or is a congenital anomaly/birth defect.

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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.