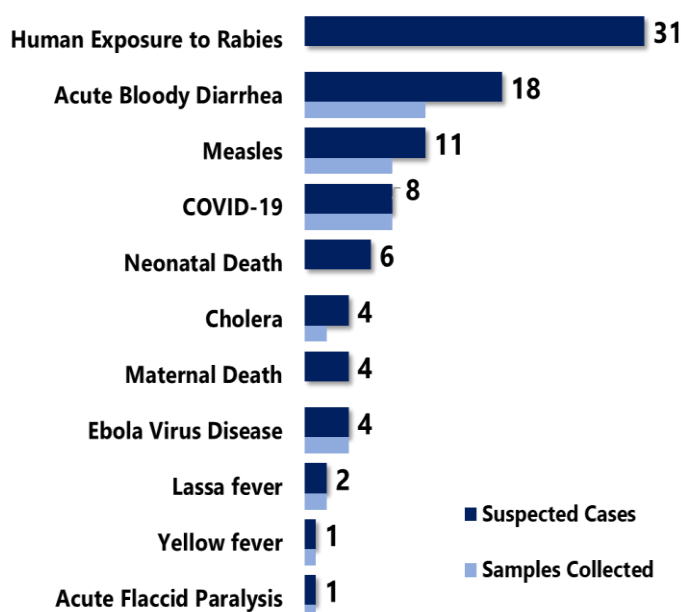


Highlights

Figure 1: Public Health Events Reported during this week



Keynotes and Events of Public Health Significance

- ♦ A total of **90** events of public health importance including **12** deaths were reported
- ♦ Completeness and timeliness of health facility reports were **99%** and **98%** respectively
- ♦ **Ongoing Lassa fever** outbreak in one county
- ♦ **Eight** new confirmed COVID-19 cases recorded from two counties
- ♦ **Ongoing EVD preparedness** initiated at all level

Reporting Coverage

Table 1: Health Facility Weekly DSR Reporting Coverage, Liberia, Epi week 18, 2021

County	Expected Report	Reports Received	Received on Time	Completeness (%)	Timeliness (%)
Bomi	26	26	26	100	100
Bong	57	53	53	93	93
Gbarpolu	15	15	14	100	93
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	87	87	95	95
Rivercess	20	20	20	100	100
River Gee	20	20	20	100	100
Sinoe	37	37	37	100	100
Liberia	889	881	880	99	98

881(99%)
Health facilities reported IDSR data

93(100%)
Health districts reported IDSR data

880(98%)
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

Eleven (11) suspected cases were reported from Grand Gedeh (4), Bong (3), Gbarpolu (2), Montserrado (1) and Lofa (1) Counties

- Eight (8) specimens were collected and pending laboratory confirmation

Vaccination status among suspected cases

- Vaccinated: 7 (64%)
- Not vaccinated: 4 (36%)

Age distribution among suspected cases

- <5 years: 2 (18%)
- ≥5 years: 9 (82%)

Cumulatively, since Epi week one, one hundred fifty-five (144) suspected cases have been reported

Epi-classification is as follows: 100 confirmed (16 lab-confirmed, 73 clinically confirmed, 11 epi-linked), 53 negatives and 2 indeterminate (equivocal)

Figure 2: Geographical Distribution of Reported Measles Cases by Health Districts, Liberia, Epi week 1 – 19, 2021

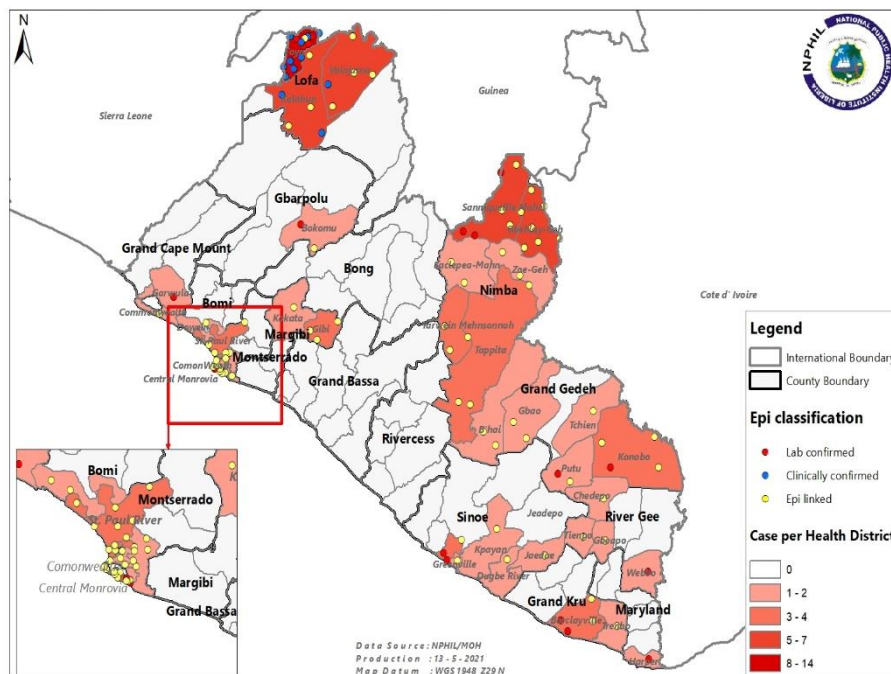
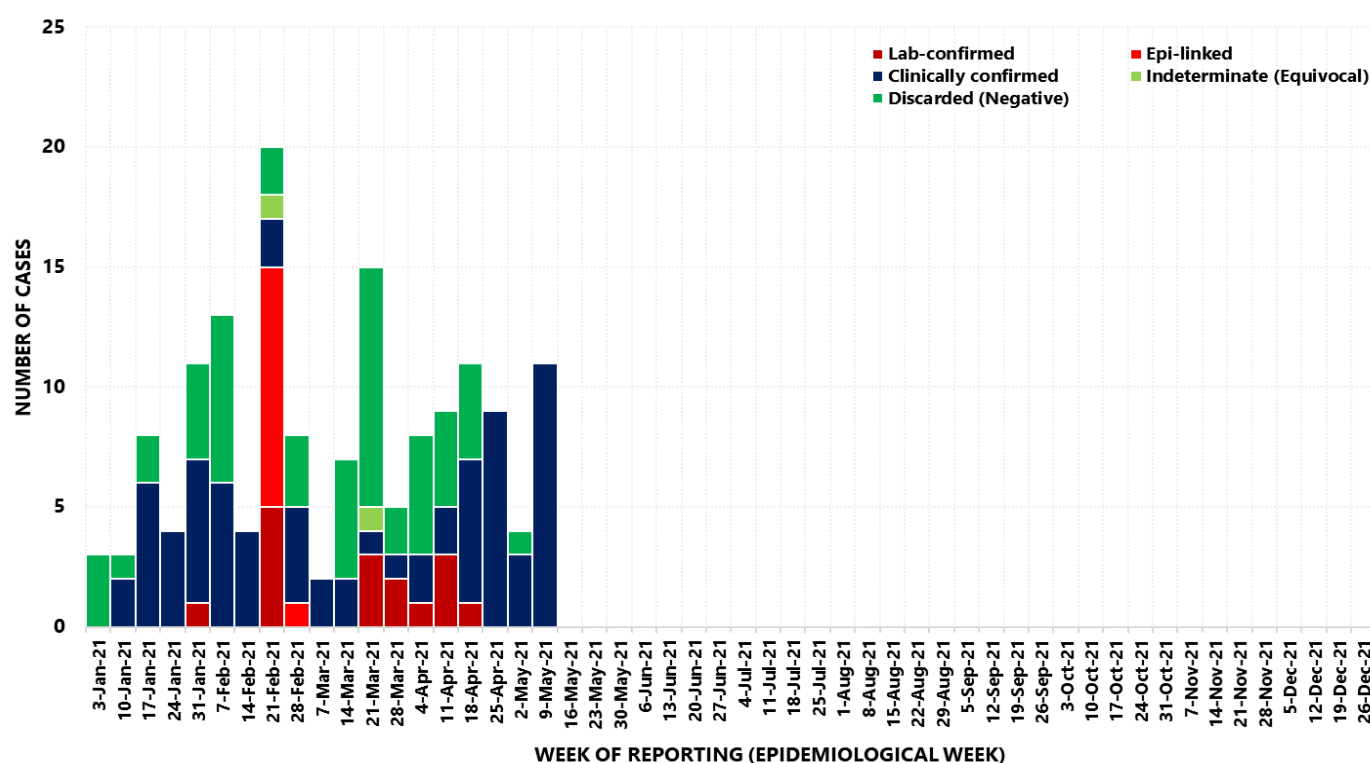


Figure 3: Measles Cases by Week of Reporting and Epi-classification, Liberia, Epi week 1 - 19, 2021



Acute Flaccid Paralysis

- ☞ One (1) case was reported from Grand Bassa (1) County
- ☞ Specimens were collected, shipped and pending testing
- ☞ Cumulatively, since Epi week one, 60 Acute Flaccid Paralysis cases have been reported
 - Of the total, 51 specimens have reached the national level and onward shipment process completed (see Table 2)
- ☞ Epi-classification is as follows: 31 clinically confirmed, 15 discarded (negative), 4 NPENT and 1 confirmed (cVDPV2)
- ☞ As of week 19, non-polio AFP rate is at 6.7 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 - 19, 2021

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	49595	2	0	11.0	2	100%	0	0.0%
Bong	204820	8	3	10.7	8	100%	2	25.0%
Gbarpolu	49162	2	1	11.1	2	100%	0	0.0%
Grand Bassa	130703	5	1	10.5	5	100%	1	20.0%
Grand Cape Mount	74927	2	0	7.3	2	100%	0	0.0%
Grand Gedeh	73848	0	0	0.0	0	0%	0	0.0%
Grand Kru	34151	2	0	16.0	2	100%	0	0.0%
Lofa	162671	8	3	13.5	8	100%	0	0.0%
Margibi	123772	5	3	11.1	5	100%	0	0.0%
Maryland	80145	1	1	3.4	1	100%	0	0.0%
Montserrado	681600	12	6	4.8	12	100%	1	8.3%
Nimba	272406	3	1	3.0	3	100%	0	0.0%
Rivercess	42160	0	0	0.0	0	0%	0	0.0%
River Gee	39381	1	0	6.9	1	100%	0	0.0%
Sinoe	60373	0	0	0.0	0	0%	0	0.0%
Liberia	2079713	51	19	6.7	51	100%	4	7.8%
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 is ongoing to ascertain the status of these cases. Additionally, there is an ongoing outbreak of circulating Vaccine-Derived Poliovirus type 2 (cVDPV2) since December 2020.

Neonatal Tetanus

- ☞ Zero cases reported
- ☞ Cumulatively, since Epi week one, nine (9) cases have been reported

Influenza-Like Illnesses

Coronavirus Disease (COVID-19)

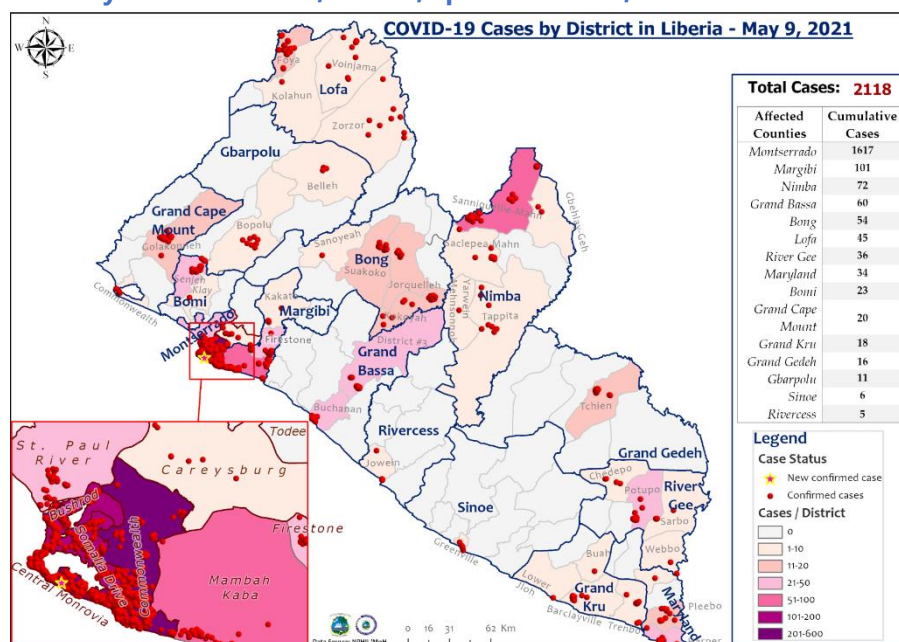
Outbreak

- ☞ Eight (8) new confirmed cases were reported from Montserrado (7) and Gbarpolu (1) Counties with male accounting for 63%
- ☞ Since Epi week one, a total of three hundred (300) confirmed cases have been reported
- ☞ Cumulatively, two thousand one hundred eighteen (2,118) confirmed cases recorded including 85 deaths

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

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



Viral Hemorrhagic Diseases

Lassa fever

- 📁 Two (2) suspected cases were reported from Maryland and Montserrado Counties
- 📁 Specimens were collected and tested negative
- 📁 Cumulatively, since Epi week one, forty-one (41) suspected cases have been reported including nine (9) deaths
 - 7 positive, 28 negative and 6 specimens not collected
 - Proportion of suspected cases with sample collected 85% (35/41)
 - Proportion of suspected cases with sample tested 100% (35/35)

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

Outbreak

District #3A&B, Grand Bassa County

- No new confirmed case
 - 55-year-old female who lives in Estate four Camp, District 3A&B, Grand Bassa County
 - Onset of illness was April 23, presented with fever, headache, generalized body pain, vomiting and swollen neck
 - She sought medical care at LAC hospital on April 27, 2021
 - On April 29, the case was isolated and blood specimen collected sent to the National Reference Laboratory
 - Eleven (11) contacts line listed (3 family members and 8 health worker)

Public Health Actions

- 📁 Active case search and community engagement ongoing
- 📁 Continue to air messages on prevention of Lassa fever and rodents control measures in the affected district in Grand Bassa County

Yellow fever

- 📁 One (1) suspected case reported from Grand Kru County
- 📁 Specimen collected and pending testing
- 📁 Cumulatively since Epi week one, thirty-nine (39) suspected cases have been reported with 18 negative, 16 pending testing and 5 specimens were not collected
 - Proportion of suspected case with sample collected 87% (34/39)
 - Proportion of suspected case with sample tested 53% (18/34)

Monkeypox

- 📁 Zero suspected case were reported
- 📁 Cumulatively since Epi week one, one (1) suspected case reported

Ebola Virus Disease

- 📁 Four (4) new alerts including one death were reported Lofa (2), Nimba (1) and Bong (1) Counties
- 📁 Cumulatively since Epi week one, forty-six (46) alerts have been reported with 40 tested negative, 5 not a case and 1 specimen not collected

Note: All viral hemorrhagic diseases detected and reported are considered an alert for Ebola Virus Disease since the confirmation of the EVD in Guinea.

Diarrheal Diseases

Acute Bloody Diarrhea (Suspected Shigellosis)

- 📁 Eighteen (18) cases were reported from Grand Gedeh (8), Lofa (3), Margibi (2), Montserrado (1), Grand Kru (1), Rivercess (1), Sinoe (1), and Gbarpolu (1) Counties
 - Eleven specimens were collected, two tested with negative results and eight pending testing
- 📁 Cumulatively, since Epi week one, one hundred seventy-four (174) suspected shigellosis cases have been reported with 69 specimens collected, 22 tested negative and 47 pending laboratory testing

Severe Acute Watery Diarrhea (Suspected Cholera)

- 📁 Four (4) suspected cases were reported from Grand Kru, Bomi, Lofa, and Rivercess Counties
- 📁 Two specimens were collected and pending testing
- 📁 Cumulatively, since Epi week one, fifty-nine (59) suspected cholera cases have been reported

Other Reportable Diseases

Animal Bites (Human Exposure to Rabies)

- 📁 Thirty-one (31) animal bite cases were reported from Maryland (7), Montserrado (5), Grand Kru (4), Nimba (4), Grand Gedeh (3), Bong (2), River Gee (2), Sinoe (1), Margibi (1), Rivercess (1), and Grand Bassa (1) Counties
 - No prophylaxis administered at health facilities
- 📁 Cumulatively, since Epi week one, six hundred fifteen (615) animal bite cases have been reported

Meningitis

- 📁 Zero suspected case 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, Lofa, Bomi, and Nimba Counties
- 📁 Causes of death: Postpartum hemorrhage (2), Sepsis (1) and Pulmonary embolism (1)
- 📁 Health facility accounted for 100% (4)
- 📁 Cumulatively, since Epi week one, eighty-four (84) deaths have been reported with the MMR of 116 deaths by 100,000 livebirths and Montserrado accounting for the highest percentage of death (see Table 3)

Table 3: Cumulative Maternal Deaths Reported and Annualized Maternal Mortality Ratio by Counties, Liberia, Epi week 1 - 19, 2021

Reporting Counties	Current Week	Cumulative Maternal Death	% of Cumulative Maternal Death	Annualized Maternal Mortality Ratio
Bomi	1	3	4	173
Bong	0	9	11	126
Gbarpolu	0	0	0	0
Grand Bassa	0	5	6	110
Grand Cape Mount	0	1	1	38
Grand Gedeh	0	2	2	78
Grand Kru	0	0	0	0
Lofa	1	4	5	70
Margibi	0	4	5	93
Maryland	0	1	1	36
Montserrado	1	35	42	147
Nimba	1	14	17	147
Rivercess	0	1	1	68
River Gee	0	0	0	0
Sinoe	0	5	6	237
Liberia	4	84	100	116

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

- 👉 Six (6) deaths were reported from Montserrado (3), Maryland (1), Lofa (1), and River Gee (1) Counties
- 👉 Causes of deaths: Birth asphyxia (4), Neonatal sepsis (1) and Pending review (1)
- 👉 Health facility accounted for 100% (6) while community accounted for 0%
- 👉 Cumulatively, since Epi week one, two hundred eighty-eight (288) 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)

- 👉 Zero cases were reported
- 👉 Cumulatively, since Epi week one, forty-seven (47) events have been reported with Lofa County accounting for 43% (20)
 - 55% (26) of the events related to nOPV2
 - 32% (15) of the events related to TCV
 - 13% (6) of the events related to ADR

Public Health Actions

- 👉 All events were investigated, with eight of the events categorized as *serious AEFI and being treated symptomatically*
- 👉 Active case search for AFP and community engagement ongoing

Figure 3: Geographical Distribution of Reported AEFI/ADR Events, Liberia, Epi week 1 – 19, 2021



Cross Border Surveillance Update

- 👉 A total of 3,841 travelers recorded for the week with incoming travelers accounting for 47% and outgoing travelers 53%
- 👉 None of the travelers were reactive for COVID-19 during this reporting week

Table 4: Cross border activity at the PoE for Incoming and Outgoing Travelers, Liberia, Epi week 19, 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	55	29	26	0	0	0	0	0	0
	Robert International Airport	2142	1027	1115	26	8	18	0	1	0
Seaport	Freeport of Monrovia	88	44	44	0	0	0	0	0	0
	Harper	0	0	0	0	0	0	0	0	0
	Buchanan Port	76	38	38	0	0	0	0	0	0
Land Crossing	Bo Water Side	834	332	502	24	19	5	0	0	0
	Ganta	425	190	235	19	0	19	0	0	0
	Yekepa	62	38	24	2	2	0	0	0	0
	Longuatu	82	62	20	5	5	0	0	0	0
	Wehypa	54	24	30	0	0	0	0	0	0
	Gahnpa	23	8	15	0	0	0	0	0	0
Total travelers		3841	1792	2049	76	34	42	0	1	0

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



Liberia IDSR Epidemiology Bulletin

2021 Epi-week 19 (May 3 – 9, 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	0	0	0	0	0	1	60	1
		D	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Measles	A	0	3	2	0	0	4	0	1	0	0	1	0	0	0	0	11	155	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	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	9	0
	Yellow fever	A	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1	39	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	1	0	0	0	0	0	1	0	0	0	1	0	0	0	3	45	0
		D	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	1	0
	Lassa fever	A	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	2	33	5
		D	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	9	2
Influenza-Like Illnesses	COVID-19	A	0	0	1	0	0	0	0	0	0	0	7	0	0	0	0	8	300	300
		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	0	0	1	0	0	8	1	3	2	0	1	0	1	0	1	18	174	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	0	0	0	0	1	1	0	0	0	0	1	0	0	4	59	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	1	0	0	0	0	0	0	1	0	0	1	1	0	0	0	4	84	
	Neonatal Mortality	D	0	0	0	0	0	0	0	1	0	1	3	0	0	1	0	6	288	
	Adverse Events Following Immunization (AEFI)	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	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	2	0	1	0	3	4	0	1	7	5	4	1	2	1	31	615	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
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			2	6	4	2	0	15	7	9	3	9	19	6	3	3	2	90	1931	324

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.