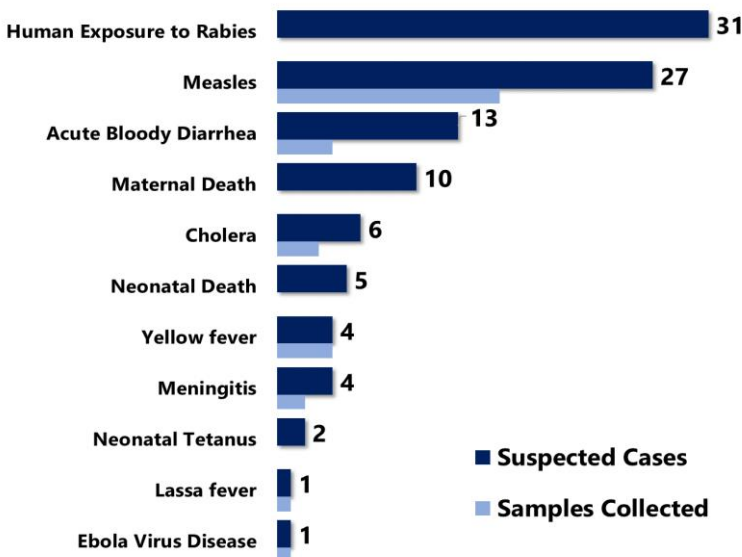


Country Population: 4,433,398 | Volume 12 Issue 29 | July 15 – 21, 2019 | Data Source: CSOs from 15 Counties and Lab

Highlights

Figure 1: Public Health Events reported during this week



Keynotes and Events of Public Health Significance

- ◆ **A total of 104** events of public health importance including **16** deaths were reported
- ◆ **Completeness and timeliness** of health facility reports were 98% and 97% respectively
- ◆ **Measles outbreaks ongoing** in Rivercess and Grand Gedeh Counties

Reporting Coverage

Table 1. Health Facility Weekly IDSR Reporting Coverage, Liberia, Epi week 29, 2019

County	Number of Expected Report	Number of Reports Received	Number Received on Time	Completeness (%)	Timeliness (%)
Bomi	26	26	26	100	100
Bong	57	57	57	100	100
Gbarpolu	16	16	16	100	100
Grand Bassa	34	34	34	100	100
Grand Cape Mount	34	34	34	100	100
Grand Gedeh	24	24	24	100	100
Grand Kru	19	17	17	89	89
Lofa	59	57	57	97	97
Margibi	59	59	59	100	100
Maryland	26	26	26	100	100
Montserrado	347	331	330	95	95
Nimba	84	83	83	99	99
Rivercess	20	20	20	100	100
River Gee	20	20	20	100	100
Sinoe	37	37	37	100	100
Liberia	862	841	840	98	97

841 (98%)
Health facilities reported IDSR data

93 (100%)
Health districts reported IDSR data

840 (97%)
Health facilities out of 862 reported timely IDSR data

Legend: ≥80 <80

- ◆ The national target for weekly IDSR reporting is 80%
- ◆ Health facility timeliness is monitored at County level
- ◆ All counties submitted their weekly IDSR report on time to the national level

Vaccine Preventable Diseases

Measles

- ◆ Twenty-seven (27) suspected cases were reported from Montserrado (7), River Gee (5), Grand Bassa (4), Nimba (4), Sinoe (4), Bomi (1), Margibi (1), and Lofa (1) Counties
 - Sixteen specimens were collected, 13 tested and the results showed 2 positive and 11 negative
- ◆ Vaccination status:
 - Among suspected cases: 17 (63%) vaccinated, 2 (7.4%) not vaccinated and 8 (29.6%) unknown
- ◆ Age distribution
 - Among suspected cases: <1 year: 3 (11.1%), 1 – 4 years: 7 (25.9%), ≥5 years: 17 (63%)
- ◆ Cumulatively, since Epi-week one, 1193 suspected cases have been recorded; Of these, 442 have been tested by the laboratory and results showed 123 positive, 310 negative and 9 indeterminate
- ◆ Epi-classification is as follows: 873 (73.2%) confirmed (123 lab confirmed, 668 clinically confirmed, 82 epi-linked), 310 (25.9%) negative, 9 (0.8%) indeterminate, and 1 (0.1%) pending (*See Table 2, Figure 2*)
 - Cumulative vaccination status among lab confirmed: 37 (30.1%) vaccinated, 41 (33.3%) not vaccinated, 45 (36.6%) unknown
 - Age distribution among lab confirmed: <1 year: 11 (8.9%), 1 – 4 years: 15 (12.2%), ≥5 years: 97 (78.9%)
 - Of the 310 specimens tested negative for measles, 229 specimens were tested for rubella, as follows: 102 positive, 118 negative, and 9 indeterminate

Public Health Action

- ◆ Case Management, active case search, health education, and community engagement are ongoing in affected districts and communities

Table 2. Annualized Non-Measles Febrile Rash Illness Rate by Counties, Liberia, Epi-week 1 - 29, 2019

Reporting County	Epi-classification						Total	Annualized Non-Measles Febrile Rash Illness Rate
	Lab confirmed	Epi-linked	Clinically confirmed	Indeterminate (Equivocal)	Discarded (Negative)	Pending		
Bomi	1	0	12	0	11	1	25	18.7
Bong	13	0	32	1	16	0	62	6.6
Gbarpolu	5	21	54	0	6	0	86	10.3
Grand Bassa	2	2	46	2	18	0	70	11.6
Grand Cape Mount	1	0	7	0	11	0	19	12.3
Grand Gedeh	21	14	18	0	14	0	67	15.9
Grand Kru	15	20	35	0	11	0	81	27.1
Lofa	7	0	85	0	18	0	110	9.3
Margibi	10	0	35	2	31	0	78	21.1
Maryland	0	0	0	0	1	0	1	1.0
Montserrado	12	4	84	1	74	0	175	9.1
Nimba	7	10	40	1	28	0	86	8.6
River Gee	16	0	61	0	27	0	104	57.7
Rivercess	7	11	49	1	36	0	104	71.8
Sinoe	6	0	110	1	8	0	125	11.1
Liberia	123	82	668	9	310	1	1193	12.5
Target Achieved	>=2		Below Target		<2			

Figure 2. Cumulative Epi-classification Measles Cases by Reporting weeks, Liberia, Epi-week 1 - 29, 2019

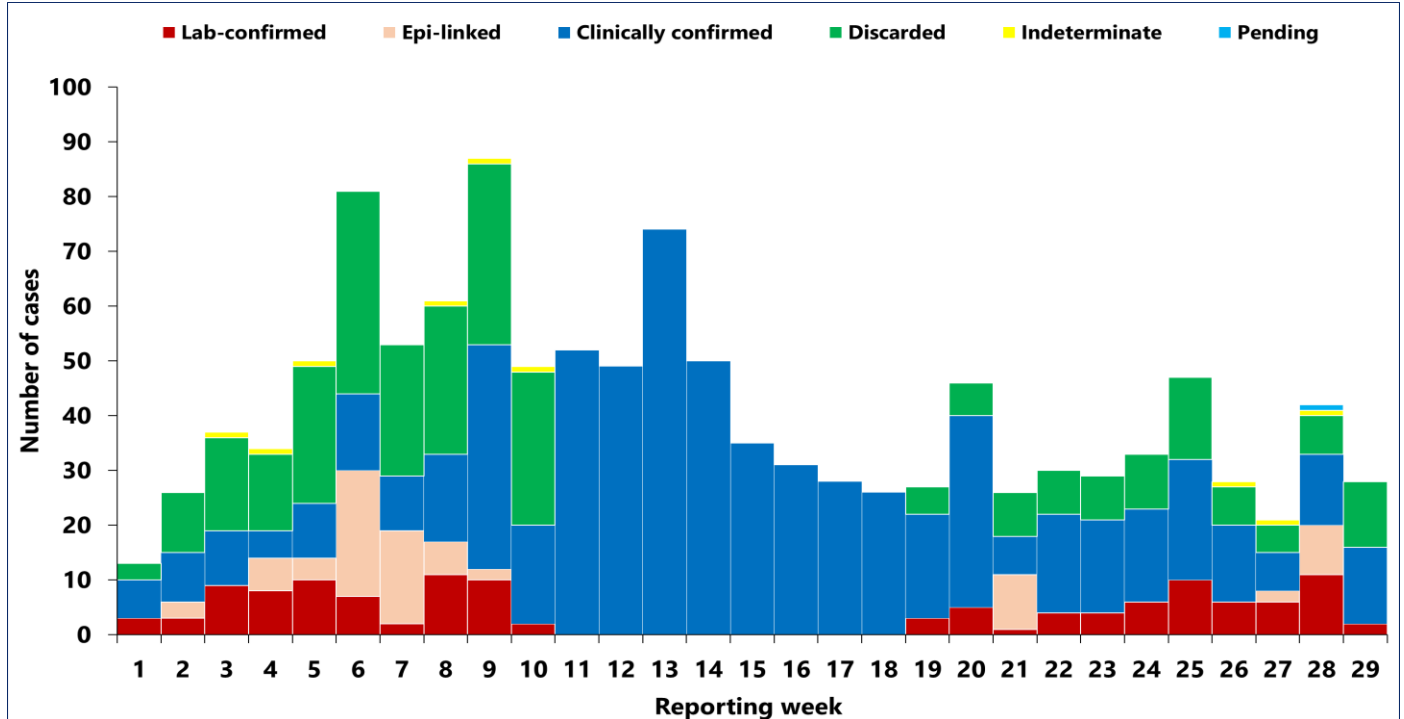
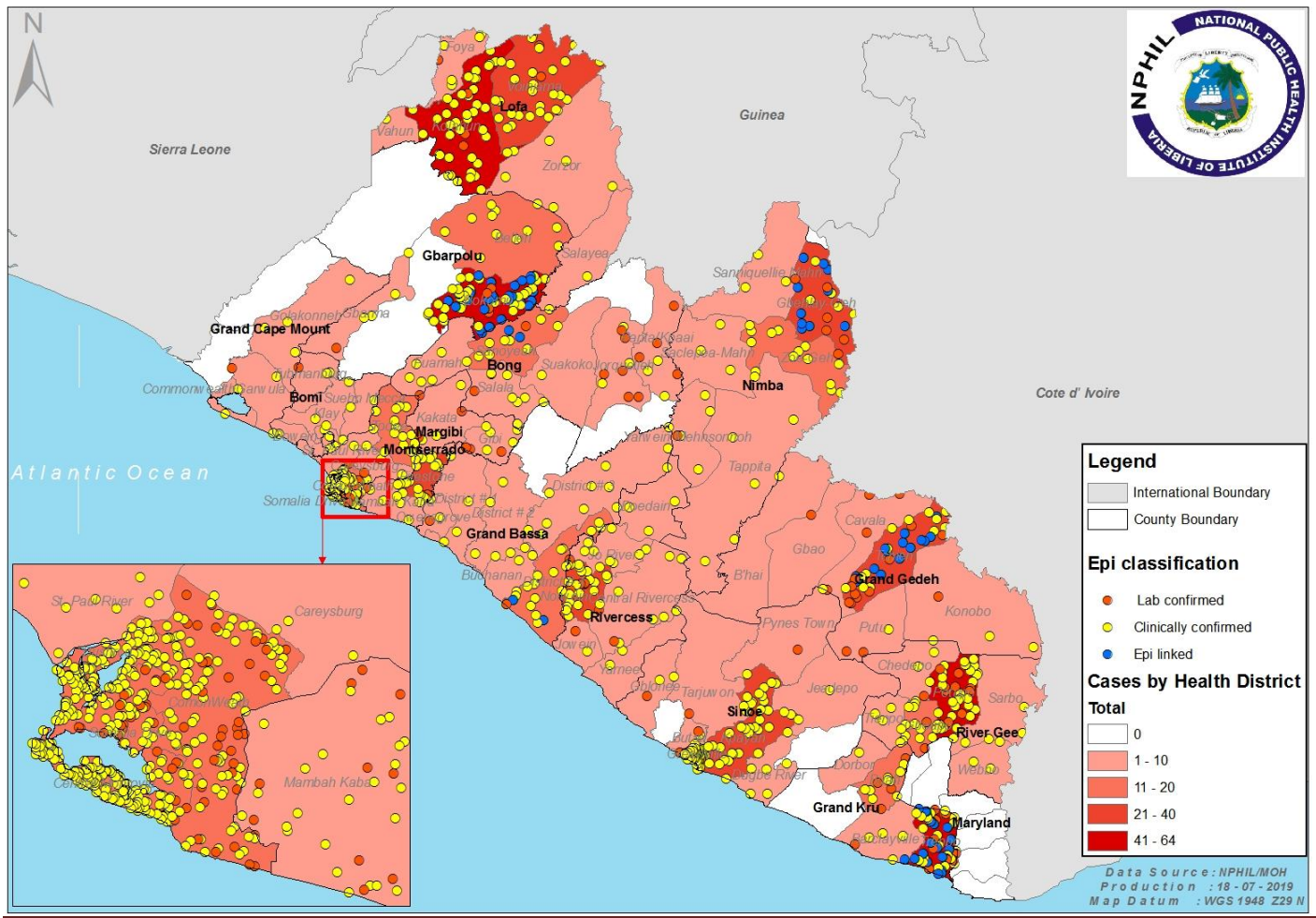


Figure 3. Cumulative Confirmed Measles Cases Reported by Health District, Liberia, Epi-week 1 - 29, 2019



Acute Flaccid Paralysis (Suspected Polio)

- ◆ Zero case was reported
- ◆ Cumulatively, since Epi week one, 35 cases have been recorded:
 - Proportion of cases reported with sample collected and tested is 100%
 - Laboratory confirmed (+) zero

Neonatal Tetanus

- ◆ Two (2) cases were reported from Margibi County
- ◆ Cumulatively, since Epi-week one, 21 clinically diagnosed cases have been recorded:
 - Attributable death 29% (n=6)

Viral Hemorrhagic Diseases

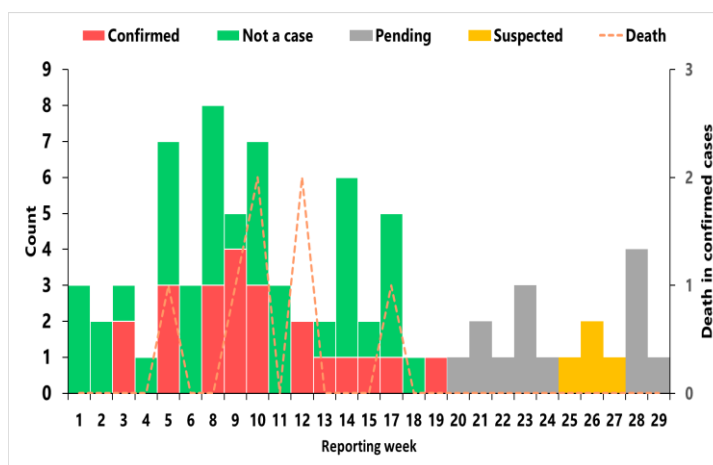
Ebola Virus Disease (EVD)

- ◆ One alert was reported from Montserrado
- ◆ Specimen was collected and tested negative
- ◆ Cumulatively, since Epi-week one, 13 EVD alerts have been recorded and all tested negative

Lassa fever

- ◆ One suspected case was reported from River Gee County
 - Specimen was collected and pending laboratory confirmation
- ◆ Cumulatively, since Epi week one, 78 suspected cases have been recorded:
 - Proportion of suspected cases reported with sample collected is 100%
 - Laboratory confirmed 28.2% (n=22)
 - Case fatality in confirmed cases is 36% (n=8)
 - Epi-classification is as follows: 22 positive, 39 negative, 13 pending laboratory confirmation and 4 suspected (*See Figure 4*)

Figure 4. Cumulative Epi-classification of Lassa fever cases by reporting weeks, Liberia, Epi-week 1 - 29, 2019



Yellow fever

- ◆ Four (4) suspected cases were reported from River Gee, Grand Cape Mount, Grand Kru and Rivercess Counties
- ◆ Specimens were collected and pending laboratory confirmation
- ◆ Cumulatively, since Epi-week one, 67 suspected cases have been recorded:
 - Zero laboratory confirmed
 - Proportion of suspected cases reported with sample tested is 87% (n=58)
 - Zero attributable death

Monkeypox

- ◆ Zero suspected case was reported
- ◆ Cumulatively, since Epi week one, 50 suspected cases have been reported and 12 specimens have been shipped to Atlanta for confirmation

Meningitis

- ◆ Four (4) suspected cases were reported from Gbarpolu (2), Maryland (1) and Grand Gedeh (1) Counties
- ◆ Two specimens were collected from Grand Gedeh and Maryland Counties
- ◆ Cumulatively, since Epi-week one, 36 suspected cases have been recorded, 31 tested negative, and 4 specimens were not collected from Gbarpolu (2), Lofa (1) and Maryland (1) Counties

Events of Public Health Importance

Maternal Mortality

- ◆ Ten (10) deaths were reported from Montserrado (5), Nimba (2) and one each from Bong, Rivercess and Grand Kru Counties
- ◆ Causes of death: Postpartum Hemorrhage (4) Sepsis (2), Eclampsia (1), Ruptured uterus (1) and under investigation (1)
- ◆ Reporting sites: health facilities 10 (100%)
- ◆ Cumulatively, since Epi-week one, 166 maternal deaths have been recorded and the major attributable causes are: postpartum hemorrhage 81 (48.8%), eclampsia 22 (13.3%), and anemia 13 (7.8%) (*See Table 3*)

Table 3. Annualized and Cumulative Maternal Death Reported by County, Liberia, Epi-week 1 - 29, 2019

County	Estimated Annual Live birth (4.3%)	Current week	Cumulative	% of Cumulative Maternal deaths	Annualized Maternal Mortality Ratio/100,000
Maryland	7347	0	11	7	278
Grand Gedeh	6770	0	10	6	274
Bong	18775	1	23	14	228
Margibi	11345	0	12	7	196
Rivercess	3865	1	4	2	192
Nimba	24970	2	24	14	178
Gbarpolu	4507	0	4	2	165
Montserrado	62479	5	51	31	152
Grand Cape Mount	6868	0	5	3	135
Sinoe	5534	0	4	2	134
Grand Kru	3130	1	2	1	119
Grand Bassa	11981	0	7	4	109
River Gee	3610	0	2	1	103
Bomi	4546	0	2	1	82
Lofa	14911	0	5	3	62
Liberia (National)	190636	10	166	100	162

Neonatal Mortality

- ◆ Five (5) deaths were reported from Bong (2) and one each from Grand Kru, Grand Gedeh, and Nimba Counties
- ◆ Causes of deaths: Asphyxia (3), and Preterm (2)
- ◆ Reporting sites: health facilities 4 (80%) and community 1 (20%)
- ◆ Cumulatively, since Epi-week one, 424 neonatal deaths have been reported (*See Table 4*) and the major attributable causes are: asphyxia 196 (46.2%), sepsis 144 (34%) and preterm 33 (7.8%)

Table 4. Annualized and Cumulative Neonatal Death Reported by County, Liberia, Epi-week 1 - 29, 2019

County	Estimated Annual Live birth (4.3%)	Current Week	Cumulative	% of Cumulative Neonatal deaths	Annualized Neonatal Mortality Rate/1000
Grand Kru	3130	1	25	6	14.3
Grand Gedeh	6770	0	28	7	7.4
Montserrado	62479	1	183	43	5.3
Margibi	11345	0	30	7	4.7
Rivercess	3865	0	10	2	4.6
Bong	18775	0	48	11	4.6
Maryland	7347	2	20	5	4.9
Gbarpolu	4507	0	10	2	4.0
River Gee	3610	0	7	2	3.5
Sinoe	5534	0	9	2	2.9
Bomi	4546	0	6	1	2.4
Lofa	14911	0	19	4	2.3
Nimba	24970	1	25	6	1.8
Grand Cape Mount	6868	0	2	0	0.5
Grand Bassa	11981	0	3	1	0.4
Liberia (National)	190636	5	424	100	4.0

Other Reportable Diseases

Animal Bites (Human Exposure to Rabies)

- ◆ Thirty-one (31) cases were reported from Montserrado (8), Bong (5), Nimba (3), Grand Bassa (4), Lofa (3), Maryland (2), and one each from Bomi, Gbarpolu, Grand Cape Mount, Grand Kru, Rivercess, Margibi, and Grand Kru Counties
- ◆ Cumulatively, since Epi-week one, 1037 cases of animal bites have been recorded including six attributable deaths

Acute Bloody Diarrhea (Suspected Shigellosis)

- ◆ Thirteen (13) cases were reported from Lofa (7), Sinoe (2), and one each from Bomi, Maryland, Gbarpolu and Margibi Counties
 - Four specimens were collected and pending laboratory confirmation
- ◆ Cumulatively, since Epi-week one, 167 acute bloody diarrhea cases have been recorded with 118 stool specimens collected and 82 tested. Result: 12 positive and 72 negative

Severe Watery Diarrhea (Cholera)

- ◆ Six (6) suspected cases were reported from Maryland (2), Sinoe (2) and one each from Grand Bassa and Lofa Counties
 - Three specimens were collected and pending laboratory confirmation
- ◆ Cumulatively, since Epi-week one, 82 suspected cases have been recorded with 64 specimens collected out of which; 50 negative and 0 positive

Unexplained Cluster of Health Events

- ◆ Zero case reported
- ◆ Cumulatively, since Epi-week one, 11 cases of unexplained death has been reported

Points of Entry

- ◆ Zero IDSR alert detected and verified
- ◆ A total of 4860 travelers were recorded for the week (*See Table 5*)

Table 5. Total Travelers, IDSR Alerts Detected and Verified at Points of Entry, Liberia, Epi-week 29, 2019

Type of Ports	Point of Entry	Weekly total	Arrival	Departure	Yellow Book Issued	Yellow Book Damage/Card Replaced	Travelers Vaccinated	IDSR Alerts	Alerts Verified
Airport	James S. Paynes	107	62	45	0	0	0	0	0
	Robert International Airport	-	-	-	-	-	0	0	0
Seaport	Freeport of Monrovia	140	70	70	0	0	0	0	0
	Buchanan Port	156	78	78	0	0	0	0	0
Ground Crossing	Bo Water Side	502	172	330	10	10	0	0	0
	Ganta	-	-	-	-	-	-	-	-
	Yekepa	0	0	0	0	0	0	0	0
	Loguatu	0	0	0	0	0	0	0	0
Total Traveler for the Week		4877	2186	2691	130	130	0	0	0

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

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 preparedness and preventive measures are implemented



During this week, 70 events are being monitored through WHO Health Emergencies Program in the African Region. Key events highlighted during the week include the following:

- Humanitarian Crisis in Burkina Faso
- Ebola virus disease in Democratic Republic of the Congo
- Measles in Chad
- Cholera in Cameroon

Source: WHO Week 29 Bulletin on Outbreaks and Other Emergencies

Public Health Measures

National level

- ◆ Providing technical remote support to Counties
 - Heighten surveillance in affected and surrounding communities
 - **URGENCY! URGENCY! URGENCY!**
 - There is no ribavirin to treat Lassa fever patients in Liberia as of June 30, 2019
 - There is no human rabies vaccine in country to provide post exposure prophylaxis
 - **ACTION! ACTION! ACTION!**
 - NPHIL requested WHO since April, 2019 for ribavirin;
 - NPHIL is sourcing money from Finance Ministry to procure rabies vaccine

County level

- ◆ Case management for all reported cases ongoing
- ◆ Active case searches ongoing in affected communities for Measles and Lassa fever

Outbreaks

Measles: Gbao District, Grand Gedeh County

- ◆ A total of 30 cases have been reported
- ◆ Twenty-six epi-linked cases reported in this week
- ◆ Three confirmed cases with ages 1, 9, 19 years
- ◆ Epi-linked cases age range from 1 month to 44 years
- ◆ Confirmed case fatality rate is zero
- ◆ Vaccination status in confirmed cases
 - Not vaccinated: 3 (100%)
- ◆ Vaccination status in epi-linked cases
 - Vaccinated: 10 (37%)
 - Not vaccinated: 9 (33.3%)
 - Unknown: 8 (29.6%)

Measles: Timbo District, Rivercess County

- ◆ No new cases for this week
- ◆ Thirteen confirmed cases with age range from 3 to 25 years
- ◆ Confirmed case fatality rate is zero
- ◆ Vaccination status in confirmed cases
 - Vaccinated: 100%

Public Health Actions

- ◆ Cases managed in OPD
- ◆ **Grand Gedeh**
 - ◆ Mini campaign is ongoing in affected and surrounding communities targeted 942 children below 15 years
 - ◆ Health education and active case search ongoing in the affected communities
- ◆ **Rivercess:** CHT is requesting partner support to conduct supplementary immunization activities



Liberia IDSR Epidemiology Bulletin

2019 Epi-week 29 (July 15 – 21, 2019)



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
- ◆ *Case Fatality Rate (CFR)* is the proportion of deaths among confirmed cases

Liberia IDSR Epidemiology Bulletin

2019 Epi-week 29 (July 15 – 21, 2019)

Appendix 1: Summary of immediately reportable diseases, conditions, and events by County during Epi week 29 and cumulative report, Liberia, 2019

Counties	No. of Expected Health District		Acute Flaccid Paralysis (Suspected 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		Ebola Virus Disease		Yellow fever		Monkeypox		Dengue fever		Buruli Ulcer		MDR Tuberculosis		Yaws		Unexplained Cluster of deaths		Unexplained Cluster of Health Events/Disease		Other Diseases/Events	
	No. of Health District Reported		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	A	D	A	D	A	D	A	D	A	D				
Bomi	4	4	0	0	1	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
Bong	9	9	0	0	0	0	0	0	5	0	0	0	0	0	0	0	1	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
Gbarpolu	5	5	0	0	1	0	0	0	1	0	0	0	0	2	0	0	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	8	8	0	0	0	0	1	0	4	0	0	0	4	0	0	0	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 Cape Mount	5	5	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Grand Gedeh	6	6	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Grand Kru	5	5	0	0	0	0	0	0	1	0	0	0	0	0	0	1	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Lofa	6	6	0	0	7	0	1	0	2	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Margibi	4	4	0	0	1	0	0	0	1	0	0	0	1	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Maryland	6	6	0	0	1	0	2	0	2	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Montserrado	7	7	0	0	0	0	0	0	8	0	0	0	7	0	0	0	5	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Nimba	6	6	0	0	0	0	0	0	3	0	0	0	4	0	0	0	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Rivercess	6	6	0	0	0	0	0	0	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
River Gee	6	6	0	0	0	0	0	0	0	0	1	0	5	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Sinoe	10	10	0	0	2	0	2	0	0	0	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Total Weekly	93	93	0	0	13	0	6	0	30	1	1	0	27	0	4	0	10	5	2	0	1	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Cumulative Reported			35	0	155	0	82	0	1031	6	38	10	1070	0	36	0	166	424	15	6	13	0	67	0	50	0	0	0	0	0	0	0	0	0	0	0	11	0	0	0		
Cumulative Lab-confirmed			0	0	12	0	0	0	0	0	22	8	123	0	0	0			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			

D = Dead
A = Alive

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promoting healthy
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