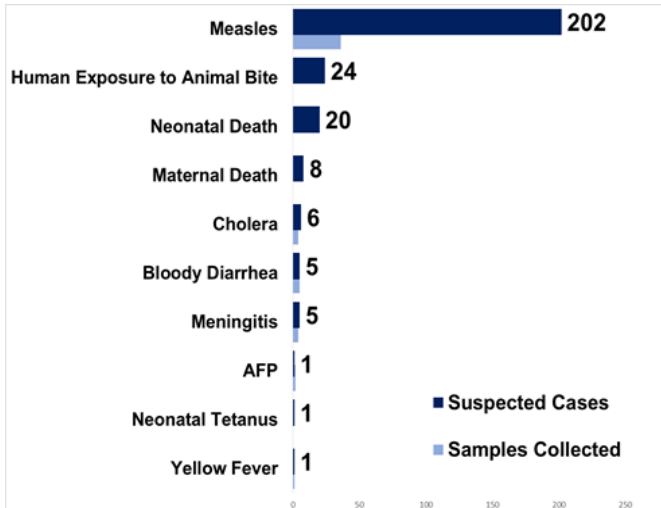


Country Population: 4,373,279 | Volume 10, Issue 5 Jan. 29-Feb. 4, 2018 Data Source: CSOs from 15 Counties and Lab

Highlights

Figure 1. Public Health Events Reported in Epi-week 5



Keynotes and Events of Public Health Significance

- A total of **274** suspected cases of immediately reportable diseases and events including **31 deaths** were reported out of which **84** were reported through CEBS
- Completeness and timeliness of health facility reports were both **98%** respectively
- Ongoing outbreak of measles in Nimba and Montserrado Counties
- All contacts under monitoring in the meningococcal disease outbreak have

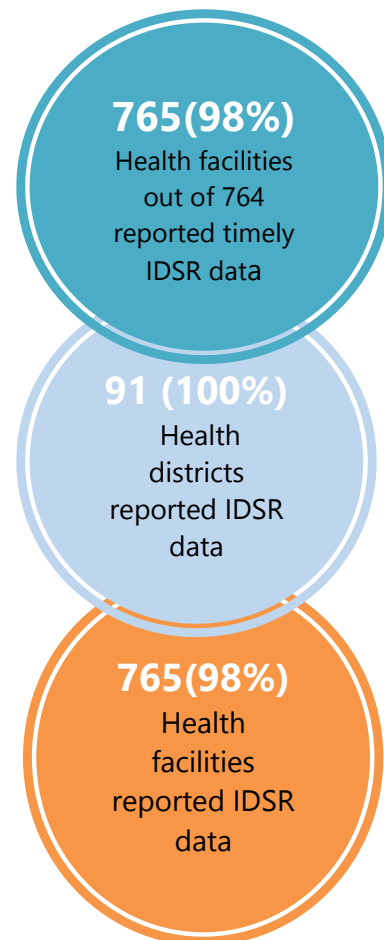
Reporting Coverage

Table 1. Weekly IDSR Reporting Coverage, Liberia, Epi week 5, 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	49	49	89	89
Gbarpolu	15	15	15	100	100
Grand Bassa	33	33	33	100	100
Grand Cape Mount	34	34	34	100	100
Grand Gedeh	24	23	23	96	96
Grand Kru	19	17	17	100	100
Lofa	59	59	59	100	100
Margibi	44	44	44	100	100
Maryland	25	25	25	100	100
Montserrado	283	282	282	100	100
Nimba	74	74	74	100	100
Rivercess	19	19	19	100	100
River Gee	19	19	19	100	100
Sinoe	35	35	35	100	100
Liberia	765	755	755	98	98

Legend ≥80 <80

- Fourteen counties submitted weekly IDSR report on time
- The national target for weekly IDSR reporting is 80%





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Vaccine Preventable Diseases

Measles

- 202 suspected cases were reported from Nimba (62), Montserrado (58), Bong (36), Margibi (10), Grand Bassa (8), Rivercess (8), River Gee (8), Gbarpolu (6), Sinoe (3), Grand Gedeh (2), Grand Cape Mount (1) Counties.
- Epi-classification of these suspected cases are as follow: Lab confirmed (IgM-positive): 0, Epi-linked (120): Clinically compatible (34): Discarded (IgM-negative): 0 and pending (48)
- Vaccination status among the suspected cases are as follow: vaccinated – 12(5.9%), not vaccinated – 17(8.4%), unknown-173(85.6%)
- Age distribution among suspected cases are as follow: <1year-old: (3%), 1-5 year old: 79(39%), and >5-year old: 117(58%)
- Cumulatively, since Epi-week one, 676 suspected cases have been reported. Epi-classification among these cases are as follow: lab confirmed – 11(1.6%), Epi-linked: 404 (59.7%), clinically compatible: 48 (7.1%), Discarded: 1 (0.1%), and pending: 213(31.5%)
- There are ongoing outbreaks in Montserrado and Nimba Counties which started 2017

Public Health Actions

- Case management initiated for all the suspected cases and community engagement ongoing
- Active case search is ongoing
- Immunization outreach conducted in Montserrado County in response to measles outbreak

Acute Flaccid Paralysis (Suspected Polio)

- One case of Acute Flaccid Paralysis was reported from Lofa (1) County
- Cumulatively, since Epi week one, 2 Acute Flaccid Paralysis cases has been reported and two samples were collected

Neonatal Tetanus

- One case of Neonatal tetanus was reported from Grand Bassa (1) County.
- The case is alive and admitted at Liberia Government Hospital
- Cumulatively, since Epi-week one, 4 clinically diagnosed cases has been reported

Viral Hemorrhagic Diseases

Ebola Virus Disease (EVD)

- Zero EVD alerts were reported this week
- Cumulatively, since Epi-week one, 19 EVD alerts have been reported and all tested negative

Lassa fever

- Zero suspected case were reported this week.
- A cumulative total of 16 suspected cases including nine deaths have been reported since Epi-week one
- Samples from 11 of the suspected cases tested negative, 3 positive and 2 are pending testing
- Please see below details on outbreak situation

Yellow fever

- One suspected case of Yellow Fever was reported from Maryland (1) County.
- Cumulatively, since Epi-week one, 10 suspected cases have been reported.



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- Epi-classification of the suspected cases are as follow: presumptive positive (1), negative (8), suspected (sample not collected) 1
- The presumptive positive case-patient is from Buah District, Grand Kru County. Aliquot of the sample has been shipped to Institute Pasteur Laboratory in Dakar, Senegal and results are pending

Meningitis

- Five suspected cases of meningitis were reported from Grand Cape Mount (1), Maryland (1), Nimba (1), River Gee (1) and Sinoe (1) Counties. Whole blood samples were collected for four cases.
- Cumulatively, since Epi-week one, 16 suspected cases have been reported. Five have been tested of which two were positive by RT-PCR for *Neisseria meningitides serotype w* and three negatives. Samples were not collected from one suspected case while test results for the other four cases are pending.
- The two positive cases are part of an outbreak of meningococcal disease in Lofa County. See outbreak details below.

Events of Public Health Importance

Maternal Mortality

- Eight maternal deaths were reported from Bong (2), Montserrado (2), Maryland (1), Nimba (1), Margibi (1) and River Gee (1) Counties
- Reported causes of death were: Postpartum hemorrhage (3), Eclampsia (1), Abrutio placenta (1), Sepsis (1), Pulmonary embolism (1) and Cardiac pulmonary arrest (1)
- All eight deaths was reported to have occurred in the health facility
- Cumulatively, since Epi-week one, 37 maternal deaths have been reported (see Table 3 for causes of death)

Table 2. Cumulative Maternal Deaths Reported by Counties, Liberia, Epi-week 1 -5, 2018

County	¹ Annual Live birth	Current week	Cumulative	% of Cumulative Maternal deaths
Bomi	4361	0	4	10.8
Bong	17289	2	3	8.1
Gbarpolu	4323	0	2	5.4
Grand Bassa	11494	0	1	2.7
Grand Cape Mount	6588	0	1	2.7
Grand Gedeh	6494	0	2	5.4
Grand Kru	3002	0	1	2.7
Lofa	14354	0	3	8.1
Margibi	10883	1	1	2.7
Maryland	7048	1	3	8.1
Montserrado	57974	2	9	24.3
Nimba	23953	1	3	8.1
River Gee	3707	1	2	5.4
Rivercess	3463	0	1	2.7
Sinoe	5308	0	1	2.7
Liberia	180242	8	37	100%

¹Number of live birth is calculated at 4.3% of the estimated population for 2018 (Source: EPI/MoH)

Table 3. Causes of reported maternal deaths. Liberia. Epi-week 1 - 5. 2018

Causes	Number	Percent (%)
Congestive heart failure	2	6.8
Septicemia	2	3.4
Raptured ectopic	1	3.4
Post-partum hemorrhage	7	13.8
Renal failure	3	10.4
Severe Anemia	3	10.3
Obstructed labor	1	3.4
Septic abortion	2	6.8
Transfusion reaction	1	3.4
Retained placenta	2	6.8
Abrutio placenta	1	3.4
Epileptic	1	3.4
Eclampsia	7	20.6
Induced Abortion	1	3.4
Pre Eclampsia	1	3.4
Cardio-pulmonary arrest	1	3.4
Pulmonary embolism	1	3.4
Total	37	100

Neonatal Mortality

- Twenty Neonatal deaths were reported from Montserrado (13), Margibi (3), Lofa (2), River Gee (1) and Bong (1) Counties
- Causes of death were sepsis (11), birth asphyxia (5), prematurity (4) and aspiration pneumonia (1)
- 18 of the deaths were reported to have occurred at health facility and two in the community
- Cumulatively, since Epi-week one, 60 neonatal deaths have been reported

Table 4. Cumulative Neonatal Deaths Reported by Counties, Liberia, Epi-week 1-5, 2018

County	Annual Live			% of Cumulative Neonatal deaths
	birth	Current Week	Cumulative	
Bomi	4361	0	1	3
Bong	17289	1	6	13
Gbarpolu	4323	0	2	3
Grand Bassa	11494	0	2	5
Grand Cape Mount	6588	0	0	0
Grand Gedeh	6494	0	1	3
Grand Kru	3002	0	1	3
Lofa	14354	2	3	3
Margibi	10883	3	4	3
Maryland	7048	0	3	8
Montserrado	57974	13	31	43
Nimba	23953	0	5	13
River Gee	3707	1	1	3
Rivercess	3463	0	0	0



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Sinoe	5308	0	0	0
Liberia	180242	20	60	100

Human Exposure to Animal Bites (Suspected Rabies)

- Twenty-four cases of animal bites were reported from Montserrado (11), Bong (2), Bomi (2), Lofa (2), Nimba (2), Grand Cape Mount (1), Grand Bassa (1), Grand Gedeh (1), Maryland (1) and Rivercess (1) Counties
- Cumulatively, since Epi-week one, 102 cases of animal bites have been reported

Acute Bloody Diarrhea (Shigellosis)

- Five suspected cases of acute bloody diarrhea were reported from Sinoe (4) and Margibi (1) Counties.
- Cumulatively, since Epi-week one, 27 suspected cases of acute bloody diarrhea have been reported with stool samples collected from 23 suspected cases
- Two cases were positive (*shigella dysenteriae* isolated) and 15 negative (no growth of *shigella dysenteriae*) and 5 pending

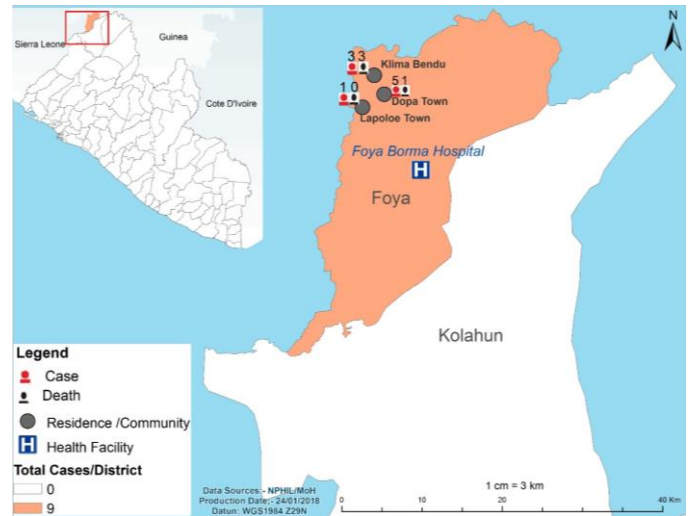
Severe Acute Watery Diarrhea (Cholera)

- Six suspected cases of cholera were reported from Montserrado (5) and Maryland (1).
- Cumulatively, since Epi-week one, 13 suspected cases of cholera have been reported of which five tested negative (no growth of vibrio cholera) and three are pending testing.

Outbreaks

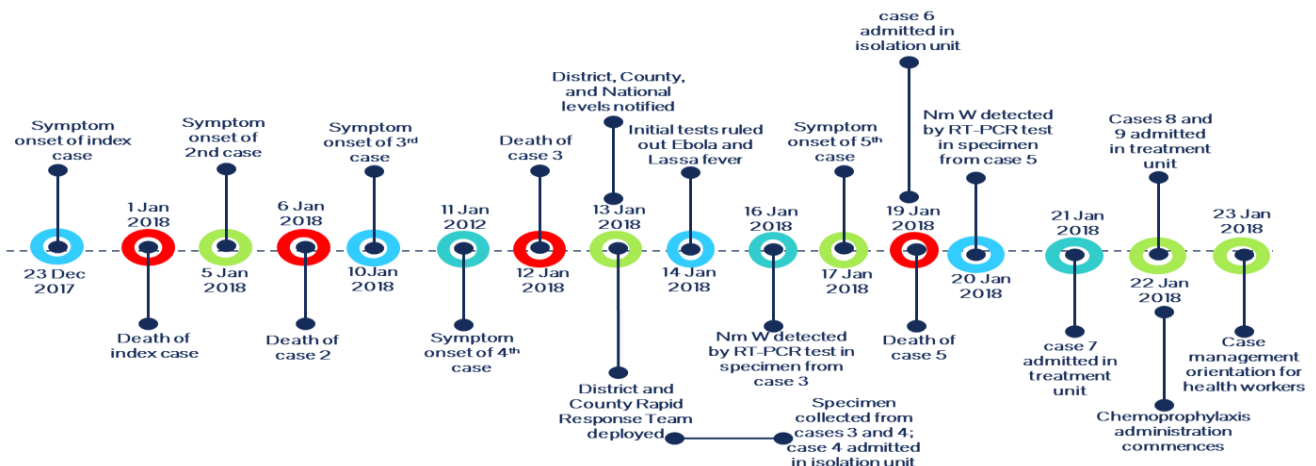
I. Lofa: Meningococcal disease (previously cluster of undiagnosed illness)

- NO new case or death has been reported, which is eighteen days since the last case was reported.
- A total of 9 cases including 4 deaths have been reported as of February 6, 2018 with case fatality rate of 44.4%
- The One (01) case, case 7, which was undergoing treatment at the isolation unit, Foya Borma Hospital has been discharged home.
- 237 contacts have completed their ten days of follow-up
- Four samples were tested all negative
- *Neisseria meningitidis serogroup W* has been detected in samples from two (of three) cases tested. Ebola (RT-PCR), Lassa fever (RT-PCR), yellow fever (serology-IgM) and typhoid (WIDAL) have been ruled out in specimens collected from these three cases. Laboratory results from specimens from the last four probable cases reported from 21 – 22 January 2018 are pending testing at the National Reference Laboratory.



Sixty-two health care workers from four health facilities were trained on meningitis case management and IPC from 23 - 24 January 2018. Community events-based surveillance has been heightened with the orientation of approximately 300 community members on simplified case definition for meningococcal disease.

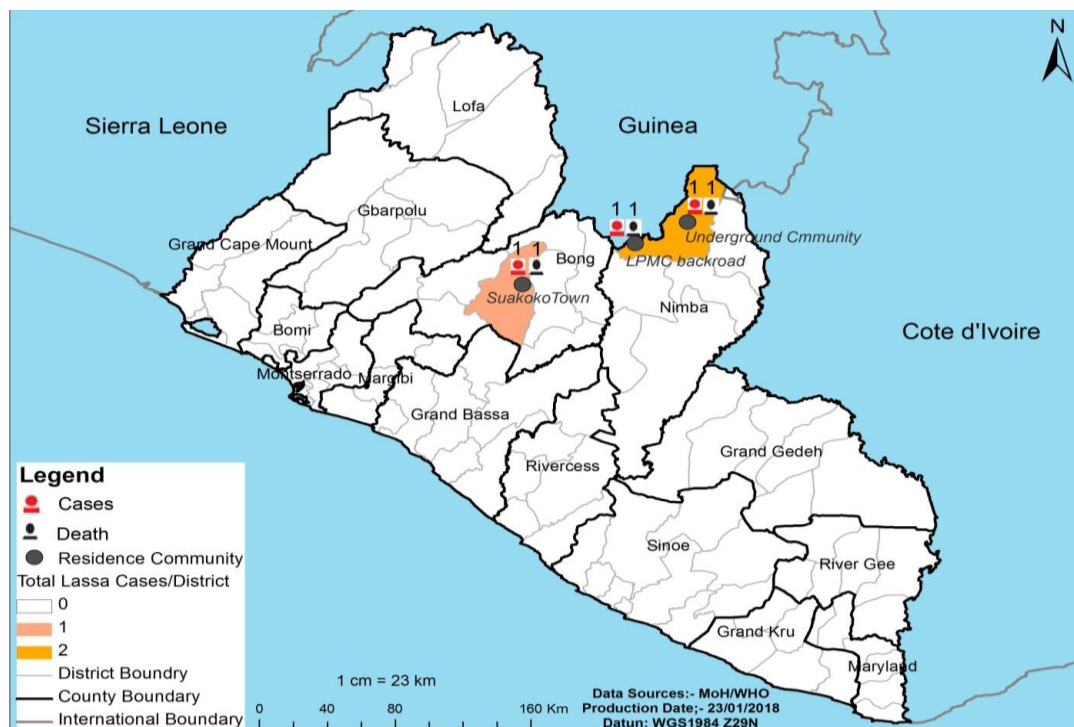
Timeline of events of meningococcal disease outbreak, Foya District, Lofa County, Liberia, 23 December 2017 – 23 January



II. Lassa Fever: Nimba and Bong Counties

- No new case was reported
- A total of 16 suspected cases including 10 deaths have been reported since beginning of January 2018
- Three cases have been confirmed by RT-PCR at the National Reference Laboratory – Bong (1) and Nimba (2). Case fatality rate among confirmed cases is 100%.
- Fifty-nine contacts identified and listed from Nimba (44) and Bong (15) have completed 21 day follow up
 - Three additional contacts from Grand Bassa County were removed from contact list after negative results of the suspected cases.
- One suspected case is currently in treatment unit LAC hospital, Grand Bassa County
- Community engagement is ongoing in affected and surrounding communities to control exposure to rodents excreta

Geographical distribution of confirmed cases of Lassa fever, Liberia, Epi-week 1 – 5, 2018





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Public Health Measures

National Level:

- National distributed 400 vials of anti-rabies vaccines to four Counties including Grand Kru, Sinoe, Grand Bassa and Grand Cape Mount
- A total of 1,100 vials have been distributed to these Counties: Montserrado, Grand Gedeh, Bong, Nimba, Grand Kru, Sinoe, Grand Bassa and Grand Cape Mount
- Provision of technical and operational support to counties to support response activities

County level:

- All counties with outbreaks have activated IMS to assess outbreak trends, mobilizes resources and monitor progress of implementation for measles response activities
- The completion of mini re-active measles campaign in Montserrado County conducted in affected and surrounding communities targeting children from 5-59 months.
- Case management initiated for all suspected cases and community engagement ongoing
- Active case search and contact tracing have been initiated in affected Counties

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 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



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Appendix 1: Summary of immediately reportable diseases, conditions, and events by County during Epi week 5 and cumulative reports, Liberia, 2018

Counties	No. of Health Districts No. of Health District reported		Acute Flaccid Paralysis (Polio)		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	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	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Bong	8	8	0	0	0	0	0	0	2	0	0	0	36	0	0	0	2	1	0	0	0	0	0	0	0	0	0	0
Gbarpolu	5	5	0	0	0	0	0	0	0	0	0	0	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Bassa	8	8	0	0	0	0	0	0	1	0	0	0	8	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
Grand Cape Mount	5	5	0	0	0	0	0	0	1	0	0	0	1	0	1	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	2	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	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Lofa	6	6	1	0	0	0	0	0	2	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0
Margibi	4	4	0	0	1	0	0	0	0	0	0	0	10	0	0	0	1	3	0	0	0	0	0	0	0	0	0	0
Maryland	6	2	0	0	0	0	1	0	1	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	1	0	0	0
Montserrado	7	7	0	0	0	0	5	0	11	0	0	0	58	0	0	0	2	13	0	0	0	0	0	0	0	0	0	0
Nimba	6	6	0	0	0	0	0	0	2	0	0	0	62	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0
Rivercess	6	6	0	0	0	0	0	0	1	0	0	0	8	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	0	0	0	0	8	0	1	0	1	1	0	0	0	0	0	0	0	0	0	0
Sinoe	10	10	0	0	4	0	0	0	0	0	0	0	3	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Weekly	91	91	1	0	5	0	6	0	24	0	0	0	202	0	4	1	8	20	1	0	0	0	0	0	1	0	0	0
Cumulative Reported			2	0	27	0	13	0	102	0	16	0	676	2	15	1	37	60	4	0	19	0	10	0	6	5		
Cumulative Laboratory Confirmed			0	0	2	0	0	0	0	0	0	3	11	0	0	2			0	0	0	0	0	0	0	0	0	0

D = Dead Note:
A = Alive

Editorial Team - NPHIL: Roseline N. George –; Advertus N. Mianah – Surveillance Coordinator/DIDE; Irene Pewu & Himiede W. Wilson – Epidemiologist/DIDE; Sumo Nuwolo, Musand Kromah, Lasee W. Colee, T. Lafayette Hall, Alberta B. Corvah, Sumor Lomax Flomo & Samuel Zayzay – Disease Investigators/DIDE; Trokon O. Yeabah – Data Manager/DIDE;
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

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For comments or questions, please contact

Thomas K. Nagbe, PA Dip., BSc, MPH

Director, Infectious Disease and Epidemiology Division

National IHR Focal Person

National Public Health Institute of Liberia

Republic of Liberia

Email: tnknue31112@gmail.com

Phone: +231 886 937386/777442444

Website: www.nationalphil.org

Ralph W. Jetoh, MD

Deputy director

Infectious Disease and Epidemiology Division

National Public Health Institute of Liberia

Republic of Liberia

Email: ralphica2000@gmail.com

Phone: +231 886526388/777372655

Website: www.nationalphil.org