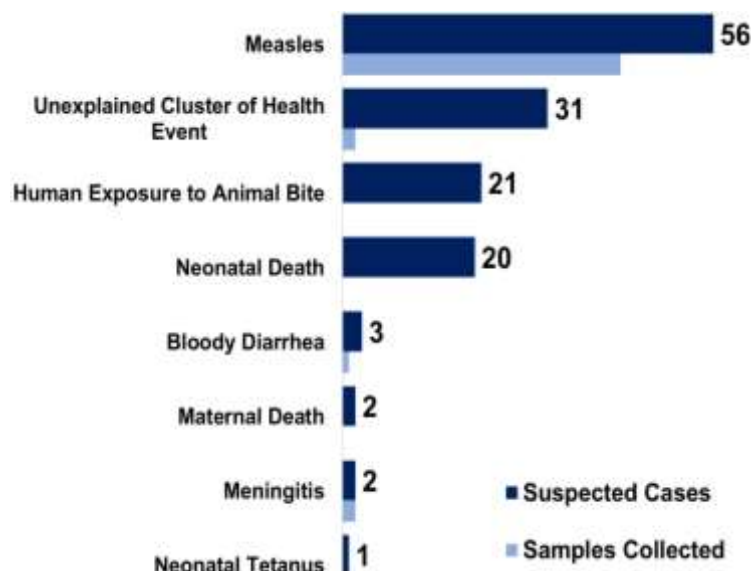


Country Population: 4,373,279 | Volume 09, Issue 52 Dec. 25 – 31, 2017 | Data Source: CSOs from 15 Counties and Lab

Highlights

Figure 1. Public Health Events Reported in Epi-week 52



Keynotes and Events of Public Health Significance

- A total of **136** suspected cases of immediately reportable diseases and events including **22 deaths** were reported from **15 counties**
- Health facility reporting **completeness and timeliness are 98%** respectively

Eleven confirmed cases of measles were reported from Montserrado County

Reporting Coverage

Table 1. Weekly IDSR Reporting Coverage, Liberia, Epi week 52, 2017

County	Number of Expected Report from Health Facility	Number of Reports Received	Number Received on Time	Completeness (%)	Timeliness (%)
Bomi	23	19	19	83	83
Bong	55	44	44	80	80
Gbarpolu	15	15	15	100	100
Grand Bassa	33	33	33	100	100
Grand Cape Mount	32	32	32	100	100
Grand Gedeh	24	23	23	96	96
Grand Kru	19	19	19	100	100
Lofa	59	59	59	100	100
Margibi	44	44	44	100	100
Maryland	25	25	25	100	100
Montserrado	283	283	283	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	759	743	743	98	98

743(98%)

Health facilities out of 759 reported timely IDSR data

91 (100%)

Health districts reported IDSR data

743(98%)

Health facilities reported IDSR data

Legend ≥80 <80

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

Vaccine Preventable Diseases

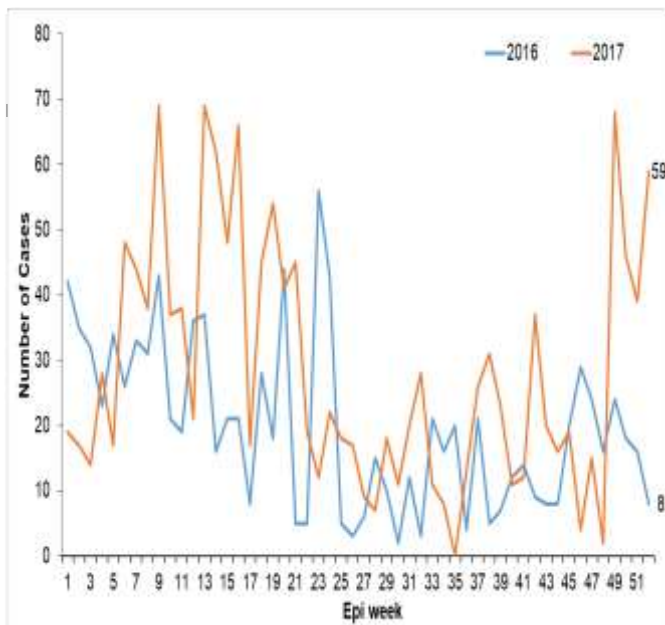
Measles

- Fifty-six (56) suspected cases were reported from Montserrado (32), Nimba, Maryland (9), Bomi (3), Grand Gedeh (1) and Rivercess (1) Counties.
- Of the total reported cases, samples were collected for 42 and sent to the National Reference Laboratory for testing
- Eleven (11) cases have been confirmed positive from the following Districts:
 - Montserrado County (Commonwealth – 6, Bushrod Island – 2, Central Monrovia -2 and Somalia Drive – 1, Districts)
- Twenty-seven (48%) of the suspected cases reported this week were <5 years and 29(52%) were ≥5 years
- Of the suspected cases reported, 10(18%) were reported to have been previously vaccinated, 8(14%) not vaccinated and 38(68%) had unknown vaccination status
- Cumulatively, since Epi week one, 1,815 suspected cases have been reported and have been classified as follow: 315 are laboratory confirmed, 281 epi-linked, 357 compatible, 845 discarded, and 17 pending arrival at the lab. Of the 901 equivocal and negative cases, 884 (98%) samples have been tested for rubella, of which, 350 (40%) were positive

Public Health Actions

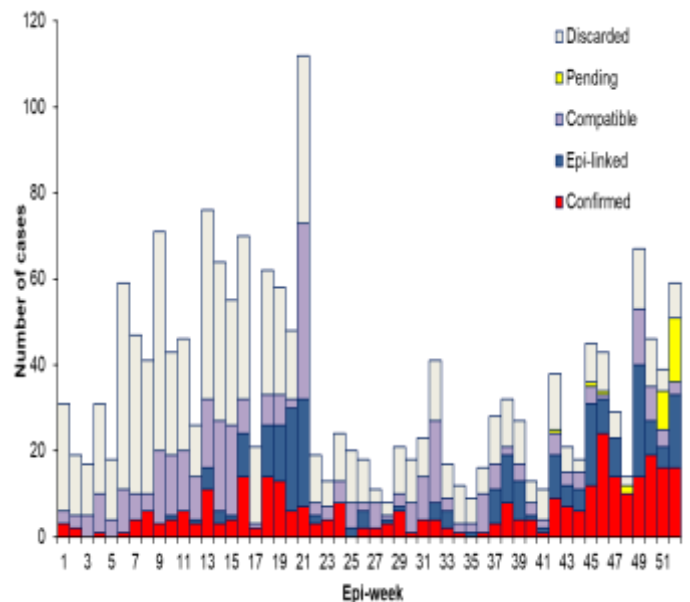
- Case management initiated for all the suspected cases and community engagement ongoing

Figure 2. Comparative weekly trend of suspected cases of measles reported, Liberia, Epi weeks 1 – 52, 2016 & 2017



Note: The x-axis showing only odd number of the Epi week

Figure 3. Epi-classification of measles cases reported, Liberia, Epi weeks 1 – 52, 2017 (n=1815)



Acute Flaccid Paralysis (Suspected Polio)

- Zero suspected case of Acute Flaccid Paralysis was reported this week
- Cumulatively, since Epi week one, 79 Acute Flaccid Paralysis cases have been reported, of which, 78 (99%) have tested negative for poliovirus and 1 (1%) are pending laboratory confirmation

Neonatal Tetanus

- One case of Neonatal tetanus was reported from Grand Bassa (1) County
- Cumulatively, since Epi-week one, 22 clinically diagnosed cases have been reported

Viral Hemorrhagic Diseases

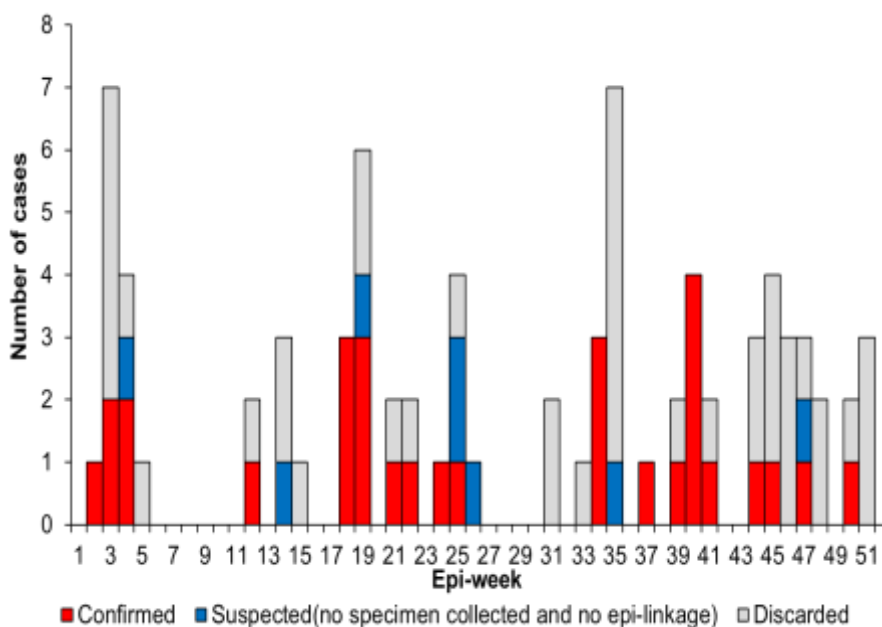
Ebola Virus Disease (EVD)

- Zero EVD alert was reported this week
- Cumulatively, since Epi-week one, 496 EVD alerts have been reported, all of which have tested negative by PCR

Lassa fever

- Zero suspected case of Lassa fever was reported this week
- Cumulatively, since Epi-week one, 81 suspected cases have been reported to include 15 cases that were identified through laboratory record review
- Of the 78 suspected cases reported, samples have been collected for 71 of which 30 have been confirmed positive. Of the 30 confirm, RT-PCR (20), ELISA-Antibody (IgM) (9) and ELISA-Antigen (1), 39 negatives while 9 are considered as suspected cases due to lack of adequate samples for testing
- A total of 12 deaths have been recorded among confirmed cases. The case fatality rate among confirmed cases is 40%.

Figure 4. Epi-classification of Lassa fever cases reported, Liberia, Epi weeks 1 – 52, 2017



Note: The x-axis showing only odd number of the Epi week

Yellow fever

- Zero suspected case of Yellow Fever was reported this week
- Cumulatively, since Epi-week one, 172 suspected cases have been reported of which 170 of the samples collected have been tested negative at the National Reference Laboratory (NRL)
- A presumptive-positive test result was released by the NRL for a sample from Rivercess County in week 47. The sample has been sent to Institute Pasteur Laboratory in Dakar, Senegal for confirmatory testing

Meningitis

- Two suspected cases of meningitis was from Nimba (1) and Maryland (1) Counties.
- Cumulatively, since Epi-week one, 70 suspected cases have been reported of which 26 samples have been collected
- Of the 70 suspected cases, 31 (including 13 deaths) were reported as part of an outbreak in four counties (Grand Bassa, Montserrado, Sinoe and Grand Kru), with *Neisseria meningitidis* serogroup C confirmed in 14 cases, and 1 streptococcus pneumonia including 11 deaths (case fatality rate among confirmed cases is 80%)

Events of Public Health Importance

Maternal Mortality

- Two maternal deaths were reported from Bomi (1) and Margibi (1) Counties
- Reported causes of death were postpartum hemorrhage (2)
- The two deaths was reported to have occurred in the health facility
- Cumulatively, since Epi-week one, 232 maternal deaths have been reported (see Table 3 for causes of death)

Figure 6. Comparison of the weekly trend of Maternal Deaths Reported, Liberia, Epi weeks 1 – 52, 2016 & 2017

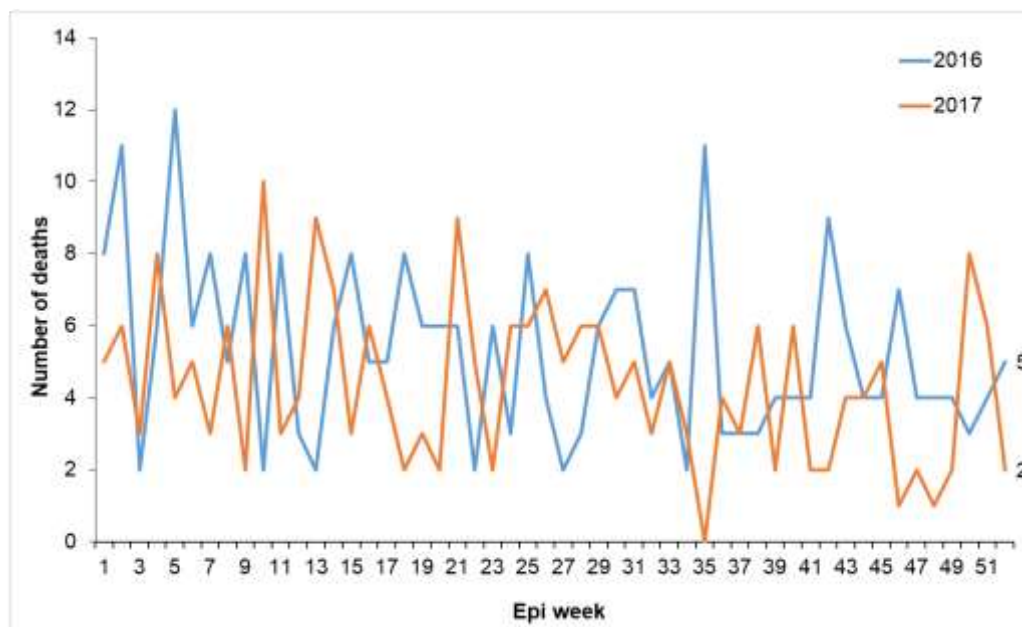


Table 2. Cumulative Maternal Deaths Reported by Counties, Liberia, Epi weeks 1 - 52, 2017

County	Annual Live birth ¹	Current week	Cumulative	% of Cumulative Maternal deaths	Annualized Maternal Mortality Ratio/100,000
Grand Kru	3002	0	8	3	866
Bomi	4361	1	9	5	671
Grand Bassa	11494	0	23	12	622
River Gee	3707	0	7	3	614
Bong	17289	0	29	11	545
Margibi	10883	1	18	8	538
Grand Gedeh	6494	0	12	2	500
Sinoe	5308	0	11	5	429
Maryland	7048	0	9	6	415
Gbarpolu	4323	0	5	2	376
Nimba	23953	0	30	13	339
Lofa	14354	0	14	8	317
Montserrado	57974	0	53	25	297
Rivercess	3463	0	3	1	188
Grand Cape Mount	6588	0	1	1	49
Liberia	180242	2	232	100	418

Number of live birth is at 4.3% of the estimated population for 2017 (Source: EPI/MoH)

Table 3. Causes of Maternal Death, Liberia, Epi weeks 1 - 52, 2017 (n=232)

Maternal Death	Frequency	Percent (%)
Post-partum hemorrhage	77	33.0
Anemia	37	16.0
Sepsis	28	12.1
Eclampsia	21	10.3
Unknown	11	4.7
Ruptured uterus	11	4.0
Cardiac pulmonary failure	6	3.4
Renal failure	11	3.4
Congestive Heart failure	6	2.3
Pre-eclampsia	4	2.3
Abruptio placenta	3	1.7
Multiple organ failure	2	1.1
Obstructed labor	2	1.1
Respiratory Distress	2	1.1
Amniotic fluid embolism	1	0.6
Dissimilated intravascular coagulation	1	0.6
Umbilical Hernia (Omphalocele)	1	0.6
Spinal shock	1	0.6
Uterine Prolaps	1	0.6
Prolong Labour	1	0.6
Total	232	100

Neonatal Mortality

- Twenty neonatal deaths were reported from Montserrado (13), Grand Gedeh (3), Grand Kru (1), River Gee (1), Grand Bassa (1) and Maryland (1) Counties
- Causes of death were birth asphyxia (7), neonatal sepsis (6), and prematurity (6)
- Nineteen of the deaths were reported to have occurred at health facility and one in the community
- Cumulatively, since Epi week one, 590 neonatal deaths have been reported

Table 4. Cumulative Neonatal Deaths Reported by Counties, Liberia, Epi weeks 1 – 52, 2017

County	Annual Live birth 4.3% (EPI 2017)	Current Week	Cumulative Neonatal deaths	% of Cumulative Neonatal deaths	Annualized Neonatal Mortality Rate
River Gee	3707	1	42	7	36.8
Maryland	7048	1	54	9	24.9
Grand Kru	3002	1	19	3	20.6
Sinoe	5308	0	27	5	16.5
Lofa	14354	0	57	10	12.9
Grand Gedeh	6494	3	25	4	12.5
Bong	17289	0	66	11	12.4
Rivercess	3463	0	13	2	12.2
Montserrado	57974	13	207	35	11.6
Gbarpolu	4323	0	12	2	9
Margibi	10883	0	22	4	6.6
Grand Bassa	11494	1	21	4	5.9
Nimba	23953	0	18	3	2.4
Bomi	4361	0	3	1	2.2
Grand Cape Mount	6588	0	4	1	2
Total	180242	20	590	100	10.6



Liberia IDSR Epidemiology Bulletin

2017 Epi Week 52 (December 25-31, 2017)



Human Exposure to Animal Bites (Suspected Rabies)

- Twenty-one events of animal bites were reported from Montserrado (5), Maryland (4), Margibi (4) Bong (3), Grand Bassa (2) Rivercess (1), Grand Gedeh (1) and Bomi (1) Counties
- Cumulatively, since Epi-week one, 1,249 events of animal bites have been reported

Bloody Diarrhea (Shigellosis)

- Three suspected cases of acute bloody diarrhea were reported from Margibi (1) and Sinoe (2) Counties
- Cumulatively, since Epi-week one, 265 cases of acute bloody diarrhea have been reported
- A total of 144 stool samples have been tested, 4 rejected due to poor sample quality, and 5 pending epi classifications. Of the 144 tested, Shigella was isolated through culture from 24 (17%) samples and no growth seen in 96 (83%) were negative

Severe Acute Watery Diarrhea (Cholera)

- Zero suspected case of cholera was reported this week
- Cumulatively, since Epi-week one, 154 suspected cases of cholera have been reported, including 5 deaths attributable to cholera
- A total of 69 stool samples have been collected including one in the current week and sent to the National Reference Laboratory and is negative. Sixty-two of the samples tested had no growth and two positive of vibrio cholera

Public Health Measures

- Case management initiated for all suspected cases and community engagement ongoing
- Active case search and contact tracing still ongoing in response to the Lassa fever outbreak in Nimba
- No new Lassa fever case have been reported across the country

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 maternal 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

2017 Epi Week 52 (December 25-31, 2017)

Appendix 1: Summary of immediately reportable diseases, conditions, and events by County during Epi week 52 and cumulative reports, Liberia, 2017

Counties	No. of Health Districts	No. of Health District reported	Acute Flaccid Paralysis (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		VHF (including EVD)		Yellow Fever		Other Diseases/Events		
			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
Bomi	4	4	0	0	0	0	0	0	1	0	0	0	3	0	0	0	1	0	0	0	0	0	0	0	0	0	0
Bong	8	8	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Gbarpolu	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
Grand Bassa	8	8	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0
Grand Cape Mount	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
Grand Gedeh	6	6	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	3	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	1	0	0	0	0	0	0	0	0	0
Lofa	6	6	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	4	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0
Maryland	6	2	0	0	0	0	0	0	4	0	0	0	9	0	1	0	0	1	0	0	0	0	0	0	0	0	0
Montserrado	7	7	1	0	0	0	0	0	5	0	0	0	32	0	0	0	0	13	0	0	0	0	0	0	0	0	0
Nimba	6	6	0	0	0	0	0	0	0	0	0	0	10	0	1	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	1	0	0	0	0	0	0	0	0	0	0	0	0	31	0
River Gee	4	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
Sinoe	10	10	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
Total Weekly	91	91	1	0	3	0	0	0	21	0	3	0	56	0	2	0	2	20	1	0	0	0	0	0	0	31	0
Cumulative Reported			80	0	265	0	151	6	1249	1	46	19	1808	2	68	2	232	590	18	4	37	275	171	1	1852	24	
Cumulative Laboratory Confirmed			0	0	18	0	2	0	0	0	29	4	267	0	1	0			0	0	0	0	1	0	0	0	0

Note: **A** = Alive
D = Dead

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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

Epidemiological bulletin published with support of WHO and CDC

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