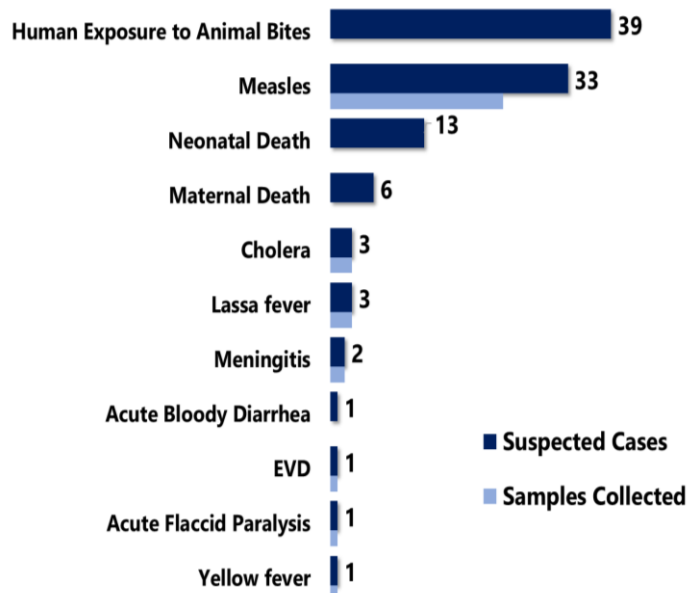


Country Population: 4,433,398 Volume 11, Issue 3, January 14-21, 2019 Data Source: CSOs from 15 Counties and Lab

Highlights

Figure 1. Public Health Events Reported in Epi week 3



Keynotes and Events of Public Health Significance

- A total of 103 events of public health importance including 20 deaths were reported
- Completeness and timeliness of health facility reports were both 99%
- Pertussis outbreak in Rivercess County
- Lassa fever outbreaks in Grand Bassa and Nimba Counties
- Measles outbreak in Grand Gedeh County
- Ebola Virus (Zaire strain) identified in Bat in Liberia

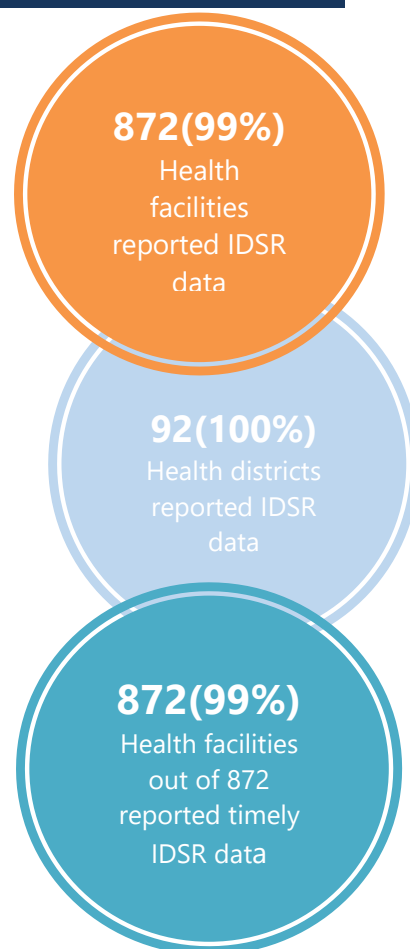
Reporting Coverage

Table 1. Weekly IDSR Reporting Coverage, Liberia, Epi week 3, 2019

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	57	49	49	86	86
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	19	19	100	100
Lofa	59	59	59	100	100
Margibi	59	59	59	100	100
Maryland	26	26	26	100	100
Montserrado	367	367	367	100	100
Nimba	84	84	84	100	100
Rivercess	20	20	20	100	100
River Gee	20	20	20	100	100
Sinoe	37	35	35	100	100
Liberia	882	872	872	99	99

Legend: ≥80 <80

- Out of the fifteen counties, Montserrado submitted weekly IDSR report late to national level
- The national target for weekly IDSR reporting is 80%



Vaccine Preventable Diseases

Measles

- Thirty-three (33) suspected cases were reported from Montserrado (7), Sinoe (7), Bong (6), River Gee (4), Grand Bassa (3), Margibi (3), Grand Gedeh (1), Grand Kru (1), and Nimba (1) Counties
- Twenty-three specimens were collected and tested by the National Public Health Reference Laboratory
 - Eight lab-confirmed (positive), thirteen discarded (negative) and two indeterminate (equivocal)
- Tchien District in Grand Gedeh County is currently in outbreak
- Vaccination status among suspected cases are as follows: vaccinated 12 (35%), unknown 3 (8.8%), not vaccinated 12 (35%) and not provided 7(20.5%)
- Age distribution among suspected cases are as follows: <1 year: 1 (2.9%), 1 – 4 years: 6 (17.6%) and ≥5 years: 27 (79.4%)
- Cumulatively, since Epi-week one, 82 suspected cases including zero deaths have been reported. Of these, 47 have been tested by the laboratory and results showed 14 positive, 30 negative and 2 equivocal
- Epi-classification are as follows: Confirmed (lab confirmed, clinically confirmed, epi-linked) cases 50 (61.4%) and discarded 30 (36.1%). *See table 2*

Public Health Action

- Circumscribe vaccination is ongoing in affected communities
- Active case search ongoing in districts that reported
- Health education and community engagement are ongoing

Table 2. Distribution of Reported Measles Cases by County and Epi-classification, Liberia, Epi-week 3, 2019

Reporting County	Epi-classification					Total	Annualized Non Measles Febrile Rash Illness Rate
	Lab confirmed	Epi-linked	Clinically confirmed	Suspected	Discarded		
Bomi	0	0	0	0	0	0	0.0
Bong	3	0	1	1	4	9	15.9
Gbarpolu	0	0	0	0	0	0	0.0
Grand Bassa	0	0	8	0	2	10	12.4
Grand Cape Mount	0	0	0	0	1	1	10.9
Grand Gedeh	5	0	1	0	4	10	44.0
Grand Kru	2	4	0	0	1	7	23.8
Lofa	0	0	0	0	0	0	0.0
Margibi	1	0	0	1	1	3	6.6
Maryland	0	0	0	0	0	0	0.0
Montserrado	3	0	0	0	9	12	10.7
Nimba	0	0	0	0	2	2	6.0
River Gee	0	0	0	0	6	6	123.9
Rivercess	0	0	0	0	0	0	0.0
Sinoe	0	0	22	0	0	22	0.0
Liberia	14	4	32	2	30	82	11.7

Target Achieved

≥2

Below Target

<2

Figure 2. Confirmed Measles Cases Reported by Health District, Liberia, Epi-week 3, 2019



Acute Flaccid Paralysis (Suspected Polio)

- One case was reported from Montserrado County
- Cumulatively, since Epi week one, two cases have been reported and pending laboratory confirmation

Table 3. Non-polio AFP rate per 100,000 population less than 15 years, Liberia, Epi-week 3, 2019

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	47576	0	0	0.0	0	0%	0	0%
Bong	196480	0	0	0.0	0	0%	0	0%
Gbarpolu	47163	0	0	0.0	0	0%	0	0%
Grand Bassa	125386	0	0	0.0	0	0%	0	0%
Grand Cape Mount	71872	0	0	0.0	0	0%	0	0%
Grand Gedeheh	70844	0	0	0.0	0	0%	0	0%
Grand Kru	32755	0	0	0.0	0	0%	0	0%
Lofa	156050	0	0	0.0	0	0%	0	0%
Margibi	118729	1	0	14.6	1	100%	0	0%
Maryland	76884	0	0	0.0	0	0%	0	0%
Montserrado	653849	1	0	2.7	1	100%	0	0%
Nimba	261314	0	0	0.0	0	0%	0	0%
Rivercess	40444	0	0	0.0	0	0%	0	0%
River Gee	37775	0	0	0.0	0	0%	0	0%
Sinoe	57910	0	0	0.0	0	0%	0	0%
Liberia	1995031	2	0	1.7	2	100%	0	0%
Non-Polio AFP Rate	<2	Stool adequacy		<80%	Non-Polio Enterovirus	<10%	Silent	
	≥ 2			≥80%		≥10%		



Liberia IDSR Epidemiology Bulletin

2019 Epi Week 3 (January 14-21, 2019)



Neonatal Tetanus

- Zero case was reported
- Cumulatively, since Epi-week one, one clinically diagnosed case has been reported

Viral Hemorrhagic Diseases

Ebola Virus Disease (EVD)

- One alert was reported from Grand Bassa County
- Cumulatively, since Epi-week one, two EVD alerts have been reported and tested negative
- *Ebola virus identified in a single cave-dwelling insect-eating bat in Sanniquellie Mah District, Nimba County*
 - *The discovery was a collective effort from the MOH, NPHIL, FDA, MOA with funding from USAID*
 - *Sampling and testing was conducted through the USAID-PREDICT project led by EcoHealth Alliance (EHA) and the Society for the Conservation of Nature, Liberia (SCNL)*
 - *The discovery is significant because it is the first detection of Zaire ebolavirus in a bat in West Africa and provides important evidence that this particular bat may be a natural host for Ebola*
 - *Ongoing studies will examine whether more of this type or other types of bats are infected, and how bats spread the virus. This information will be used to develop strategies to reduce the risk of future outbreaks.*

Lassa fever

- Three (3) suspected cases were reported from Nimba (2) and Grand Bassa (1) Counties
 - Three specimens were collected; one tested positive from Grand Bassa County and two pending testing
- Cumulatively, since Epi week one, eight suspected cases have been reported
 - Of these, six have been tested by the laboratory. Epi-classification are as follows: 1 lab confirmed, 5 not a case and 2 pending testing

Yellow fever

- One (1) suspected case was reported from Grand Cape Mount County
 - Specimen was collected and tested negative
- Cumulatively, since Epi-week one, three suspected cases have been reported and tested negative

Monkeypox

- Zero case was reported this week
- Cumulatively, since Epi-week one, two suspected cases have been reported pending shipment

Meningitis

- Two suspected cases were reported from Maryland County
 - Specimens were collected and tested negative
- Cumulatively, since Epi-week one, five suspected cases have been reported and all tested negative

Events of Public Health Importance

Maternal Mortality

- Six (6) deaths were reported from Nimba (2), Montserrado (1), Grand Bassa (1), Maryland (1), and Grand Gedeh (1) Counties
- Reported causes of deaths were:
 - Post-partum Hemorrhage (2)
 - Obstructed labour
 - Abortion
 - Anemia
 - Congestive heart failure
- Five deaths were reported to have occurred in health facilities and one in the community
- Cumulatively, since Epi-week one, 17 maternal deaths have been reported (*See Table 4*)

Table 4. Cumulative Maternal Deaths Reported by Counties, Liberia, Epi-week 3, 2019

County	Estimated Annual Live birth (4.3%)	Current week	Cumulative	% of Cumulative Maternal deaths	Annualized Maternal Mortality Ratio/100,000
Grand Gedeh	6770	1	2	12	512
Maryland	7347	1	2	12	472
Grand Bassa	11981	1	2	12	289
Nimba	24970	2	3	18	208
Bong	18775	0	2	12	185
Margibi	11345	0	1	6	153
Montserrado	62479	1	5	29	139
Bomi	4546	0	0	0	0
Gbarpolu	4507	0	0	0	0
Grand Cape Mount	6868	0	0	0	0
Grand Kru	3130	0	0	0	0
Lofa	14911	0	0	0	0
River Gee	3610	0	0	0	0
Rivercess	3865	0	0	0	0
Sinoe	5534	0	0	0	0
Liberia (National)	190636	6	17	100	155

Neonatal Mortality

- Fourteen (14) deaths were reported from Montserrado (9), Margibi (2), River Gee (2), and Grand Bassa (1) Counties
- Reported causes of deaths were
 - Asphyxia (10)
 - Sepsis (4)
- Thirteen deaths were reported to have occurred in health facilities and one in community
- Cumulatively, since Epi-week one, 37 neonatal deaths have been reported

Table 5. Cumulative Neonatal Deaths Reported by Counties, Liberia, Epi-week 3, 2019

County	Estimated Annual Live birth (4.3%)	Current Week	Cumulative	% of Cumulative Neonatal deaths	Annualized Neonatal Mortality Rate/1000
River Gee	3610	2	2	5	9.6
Maryland	7347	0	3	8	7.1
Montserrado	62479	9	21	57	5.8
Margibi	11345	2	3	8	4.6
Bomi	4546	0	1	3	3.8
Lofa	14911	0	3	8	3.5
Grand Bassa	11981	1	2	5	2.9
Grand Gedeh	6770	0	1	3	2.6
Bong	18775	0	1	3	0.9
Gbarpolu	4507	0	0	0	0
Grand Cape Mount	6868	0	0	0	0
Grand Kru	3130	0	0	0	0
Nimba	24970	0	0	0	0
Rivercess	3865	0	0	0	0
Sinoe	5534	0	0	0	0
Liberia (National)	190636	14	37	100	3.4

Other Reportable Disease

Exposure to Human Rabies (Animal Bites)

- Thirty-nine (39) cases were reported from Montserrado (18), Maryland (5), Nimba (4), River Gee (2), Grand Bassa (1), Bomi (1), Grand Cape Mount (1), Grand Gedeh (1), and Rivercess (1) Counties
- Cumulatively, since Epi-week one, 96 suspected cases of animal bites have been reported in human

Acute Bloody Diarrhea (Suspected Shigellosis)

- One (1) suspected case was reported from Sinoe County
 - No specimen was collected
- Cumulatively, since Epi-week one, 5 acute bloody diarrhea cases were reported with 2 stool specimens collected

Severe Acute Watery Diarrhea (Cholera)

- Three (3) cases were reported from Grand Bassa, Bomi and Grand Kru Counties
 - Specimens were collected for the cases, two tested negative and one rejected (Grand Kru)
- Cumulatively, since Epi-week one, 9 suspected cases has been reported

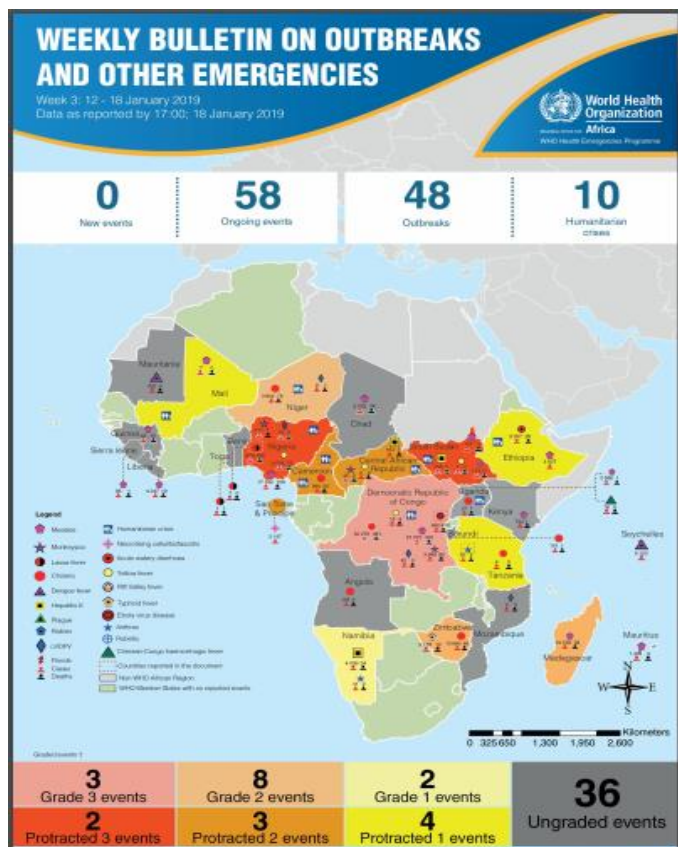
Points of Entry

Type of Ports	Point of Entry	Weekly total	Arrival	Departure	Yellow Book Issued	Yellow Book/Card Replaced	Travelers Vaccinated	IDSR Alerts	Alerts Verified
Airport	James S. Paynes	15	10	5	0	0	0	0	0
	Robert International Airport	4210	2256	1954	31	31	0	0	0
Seaport	Freeport of Monrovia	288	144	144	0	0	0	0	0
	Buchanan Port	0	0	0	0	0	0	0	0
Ground Crossing	Bo Water Side	506	200	306	19	19	0	0	0
	Ganta	87	66	21	0	0	0	0	0
	Yekepa	81	39	42	0	0	0	0	0
	Loguatuo	275	176	99	9	9	0	0	0
	Nursing Division	167	160	7	167	70	97	0	0
Total Traveler for the Week		5629	2891	2578	226	129	97	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 to preparedness and preventive measures are implemented



During this week, 58 events are being monitored through WHO Health Emergencies Program in the African Region. Key events highlighted during the week include the following:

- Anthrax in Tanzania
- Circulating vaccine-derived poliovirus type 2 in Mozambique
- Ebola virus disease in the Democratic Republic of the Congo
- Lassa fever in Nigeria
- Humanitarian crisis in Cameroon

Source: WHO Week 3 Bulletin on Outbreaks and Other Emergencies

Outbreaks

Grand Gedeh County : Measles

- This outbreak started on 21 January 2019 following the confirmation of the third confirmed measles case from the Tchien District
- Three confirmed cases were admitted and treated
- The vaccination status includes:
 - 2 vaccinated
 - 1 not vaccinated
- All the cases were above five years of age
- The County Health Team continues to respond to the outbreak

Grand Bassa County: Lassa fever

- As of January 24, 2019, coordination meeting was held for daily updates
- No new case reported as of current
- All 20 contacts are still been followed up
- DRRT still continues active case search and daily follow up
- Community engagement is ongoing
- Patient is currently stable

Nimba County: Lassa fever

- On 14 January 2019, a 9 years female was reported from the LPRC Ganta Community Sanniquellie Mah District
- The case presented with fever, conjunctivitis, swollen eyes, abdominal pain, thirst for water, anorexia and constipation
- The case was admitted at the Ganta Hospital
- Ribavirin treatment was initiated since 15 January 2019
- Specimen was collected 16 January 2019 and sent to the National Public Health Reference Laboratory
- As of current, a total of 20 contacts have been generated
 - 14 health workers
 - 6 family members
- Result showed positive on 24 January 2019
- Patient is currently stable

Rivercess County: Pertussis

- On 14 January 2019, the Rivercess County Health Team through the Officer-in-Charge (OiC) of Charlia Clinic, Timbo District reported eleven (11) cases of clinically confirmed Pertussis
- The cases range from 1 to 11 years
- All cases were line listed and treated and are being followed up by the District Health Team (DHT)
- The vaccination status of the cases includes: 4 (36.3%) were vaccinated against DPT 1&2; 3 (27.2%) were vaccinated against DPT 3; 4 (36.3%) had no vaccination history



Liberia IDSR Epidemiology Bulletin

2019 Epi Week 2 (January 7– 13, 2019)



Public Health Measures

National level:

- Providing technical remote support to Counties to:
 - Heighten surveillance in affected and surrounding communities

County level:

- Case management for all reported cases ongoing
- Active case search ongoing in affected communities for Measles, Pertussis, and Lassa fever

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

Immediately reportable diseases, conditions, and events by County during Epi week 3 and cumulative reports, Liberia, 2019

Counties	No. of Health Districts 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	A	D	D	D	A	D	A	D	A	D	A	D
Bomi	4	4	0	0	0	0	1	0	1	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	2	0	0	0	6	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
Grand Bassa	8	8	0	0	0	0	1	0	2	0	1	0	3	0	0	0	1	1	0	0	1	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	1	0	0	0
Grand Gedeh	6	6	0	0	0	0	0	0	1	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0
Grand Kru	5	5	0	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
Lofa	6	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
Margibi	4	4	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0
Maryland	6	6	0	0	0	0	0	0	5	0	0	0	0	0	2	0	1	0	0	0	0	0	0	0	0	0
Montserrado	7	7	1	0	0	0	0	0	20	0	0	0	7	0	0	0	1	9	0	0	0	0	0	0	0	0
Nimba	6	6	0	0	0	0	0	0	4	0	2	0	1	0	0	0	2	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	0	0	0	0	0	0	0	0	0	0	0
River Gee	4	4	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0
Sinoe	10	10	0	0	1	0	0	0	0	0	0	0	7	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Weekly	91	91	1	0	1	0	3	0	42	0	3	0	26	0	2	0	6	14	0	0	1	0	1	0	0	0
Cumulative Reported			2	0	5	0	9	0	100	0	6	2	75	0	5	0	17	37	1	0	2	1	3	0	0	0
Cumulative Laboratory Confirmed			0	0	1	0	0	0	0	0	0	0	6	0	0	0			0	0	0	0	0	0	0	0

D = Dead
A = Alive

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National Public Health Institute of Liberia (NPHIL)

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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