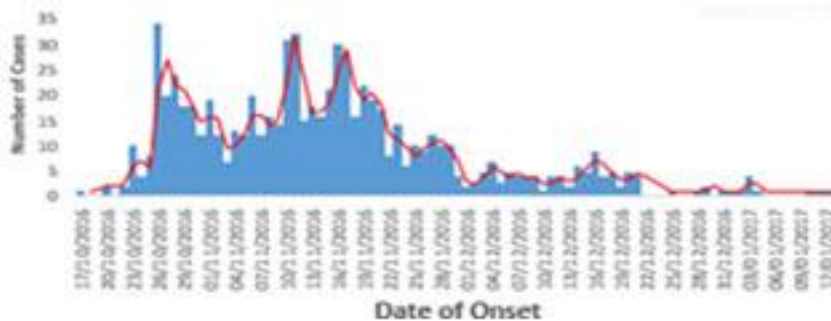




Ghana Weekly Epidemiological Report



IN THIS ISSUE

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- The overall Timeliness and Completeness of reporting by regions were 87.6% and 93.6% respectively

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Summary of Weekly Epidemiological Data for Week 06, 2018

Highlights:

- Jirapa and Nadowli-Kaleo hit epidemic threshold for meningitis.
- Eight regions achieve surveillance reporting targets for both Measles and Yellow Fever
- The overall Timeliness and Completeness of reporting by regions were 87.6% and 93.6% respectively

Summary of Total Weekly Cases & Deaths

The total all-cause weekly notifiable disease morbidity for the week (as per IDSR Weekly Summary Reporting Form) was 1,844 with two maternal deaths and 17 fatalities attributable to meningitis. Acute watery diarrhoea in persons aged >5 years was the highest proportion of cases reported and contributed 57.3% of the notifiable diseases case load during Week 6 (See Annex 1, summary of reported cases/deaths)

Timeliness and Completeness of Reporting

The total number of expected reports based on the District Health Information Management System (DHIMS) for the Week was 5,819, out of which 5,717 (98.2%) and 5,446 (93.6%) representing Timeliness and Completeness of reporting respectively. Upper West region recorded the highest score for both timeliness of reports (100%) and completeness (100%). On the other hand, Central region recorded the lowest score of timeliness of report (77.8%) and completeness of reporting (87.7%). [Table 1]

Table 1: Timeliness and Completeness of Regions based on DHIMS reporting, Ghana, Week 06, 2018

Region	Expected Number of Reports	Actual Reports Received	% Completeness	Reports on Time	% Report on Time
Ashanti	559	556	99.5	540	96.6
Brong-Ahafo	674	673	99.9	672	99.7
Central	496	435	87.7	386	77.8
Eastern	837	837	100.0	837	100.0
Greater Accra	367	334	91.0	295	80.4
Northern	653	653	100.0	649	99.4
Upper East	449	449	100.0	449	100.0
Upper West	357	356	99.7	356	99.7
Volta	625	624	99.8	621	99.4
Western	802	800	99.8	800	99.8
Ghana	5,819	5,717	98.2	5,605	96.3

Regional Performance Based on Reporting

During Week 6, overall performance of the regions ranged from 39.1% (Central) to 83.6% (Brong-Ahafo). [Table 2] The expected percentage for districts reporting suspected

Measles or Yellow Fever as of Week 6 was 9.2%. Eight regions achieved target for both Measles and Yellow Fever surveillance. Upper West failed to achieve both while Northern region failed to achieve for Yellow fever surveillance.

Table 2: Ranking of Regional Performance, Week 06, 2018

Region	Timeliness (%) Week 06 A	Completeness (%) Week 06 B	Cum. AFP Cases Week 06 C	AFP Annualized Non-Polio AFP Rate D	Average AFP Score (%) E	Measles % District reporting F	YF % District reporting G	Average Score % (A+B+C+D+E)/5 H	Position I
Brong-Ahafo	99.7	99.9	5	3.01	100	74.1	44.4	83.6	1st
Western	99.8	99.8	8	3.01	100	50.0	40.9	78.1	2nd
Eastern	100	100	5	1.33	67	65.4	19.2	70.3	3rd
Volta	99.4	99.8	3	1.58	79	32.0	20.0	66.0	4th
Upper West	99.7	99.7	3	7.43	100	0.0	0.0	59.9	5th
Greater Accra	80.4	91	5	0.41	21	68.8	18.8	56.0	6th
Ashanti	96.6	99.5	4	0.69	35	26.7	10.0	53.6	7th
Upper East	100	100	1	0	0	23.1	30.8	50.8	8th
Northern	99.4	100	0	0	0	11.5	7.7	43.7	9th
Central	77.8	87.7	3	0	0	20.0	10.0	39.1	10th
Ghana	96.3	98.2	37	1.24	62	39.4	20.8	63.3	

MENINGITIS

In Week six, a total of 77 suspected cases of meningitis were recorded with 17 deaths [Table 3]. Jirapa and Nadowli-Kaleo both in the Upper West Region crossed the Epidemic threshold recording attack rates of 10.7 and 11.1 respectively. A total of seven districts from five regions were in alert situation for meningitis. Bole and West Gonja districts in the Northern region crossed the alert threshold and recorded attack rates 7.7 and 5.8 respectively. Bongo in the Upper East region and Krachi West in the Volta region both crossed the alert threshold recording attack rates of 7.5 and 5.0 respectively. Wa district in the Upper West region

was in alert situation with an attack rate of 3.6. In the Brong-Ahafo region, Atebubu-Amanten and Jaman North districts hit the alert threshold with respective attack rates of 3.1 and 3.0. All districts which were in either alert or epidemic phase in Upper West were contiguous. [Figure 1]. All cases were tested with two confirmed to be meningitis due to *N. meningitidis* and eight of the cases confirmed to be due to *S. pneumoniae* [Table 4]. All confirmed cases were from the Brong-Ahafo, Northern and Upper West regions. [Figure 2].

Table 3: Meningitis cases and deaths by Region, Ghana, Week 06, 2018

Region	Cases	Cerebrospinal Fluid (CSF) Lab Test Positive	Deaths	CFR (%)	District in Alert	District in Epidemic
Ashanti	0	0	0	0	0	0
Brong-Ahafo*	12	5	4	33.3	2	0
Central	0	0	0	0	0	0
Eastern	2	0	1	50.0	0	0
Greater Accra	0	0	0	0	0	0
Northern*	12	4	5	41.7	2	0
Upper East*	13	0	2	15.4	1	0
Upper West*	34	1	4	11.8	1	2
Volta	3	0	0	0	1	0
Western	1	0	1	100.0	0	0
Total (Ghana)	77	10	17	22.1	7	2

Atebubu-Amanten; 4 cases [AR=3.1] Jaman North; 3 cases [AR=3.0] Sunyani; 3 cases [AR=2.0], Bole; 6 cases [AR=7.7], West Gonja; 3 cases [AR=5.8] Bongo; 7 cases [AR=7.5], Daffiama-Bussie-Issa; 3 cases [AR=7.9] Jirapa; 11 cases [AR=10.7], Lawra; 3 cases [AR=4.6] Nadowli; 8 cases [AR=11.1], Wa; 3 cases [AR=3.6]

Table 4: Meningitis cases confirmed cases by Latex, Gram stain and Culture Week 06, 2018

Districts	Cases	CSF	CSF positive	Confirmed	Deaths	Causative Organism
Atebubu-Amanten	4	4	2	2	1	2- <i>S. pneumoniae</i>
Sunyani	3	3	1	1	2	<i>N. meningitidis</i>
Jaman North	3	3	1	1	1	<i>S. pneumoniae</i>
Tano South	1	1	1	1	0	<i>S. pneumoniae</i>
Lawra	3	3	1	1	1	<i>S. pneumoniae</i>
Bole	6	6	1	1	2	<i>S. pneumoniae</i>
West Gonja	3	3	3	3	2	<i>N. meningitidis</i> 2- <i>S. pneumoniae</i>

* Polymerase Chain Reaction

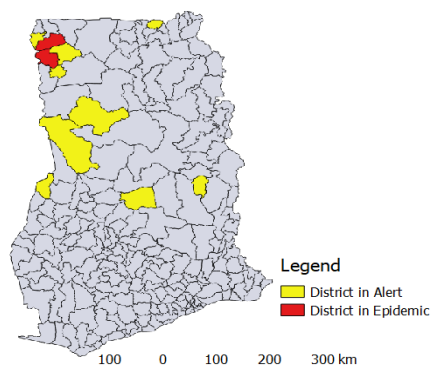


Figure 1: Districts in alert or epidemic phase for Meningitis, Week 06, 2018

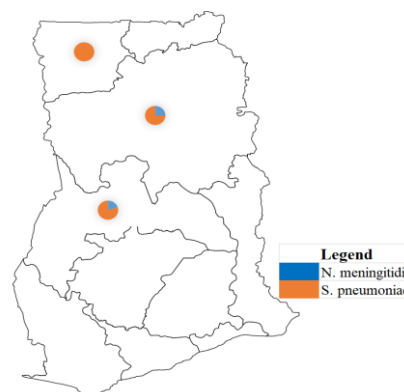


Figure 2: Laboratory confirmed Meningitis pathogens, Week 06, 2018

DISTRICTS IN MENINGITIS ALERT OR EPIDEMIC

In total, seven districts namely; Wa, Bongo, West Gonja, Bole, Jaman North, Atebubu-Amanten, Krachi West and Lawra crossed the alert threshold in Week 6 [Figures 5 - 11] while two districts (Jirapa and Nadowli-Kaleo) hit the epidemic threshold [Figures 3 & 4].

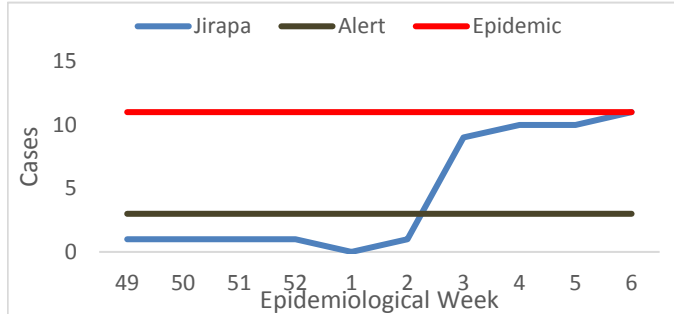


Figure 3: Meningitis threshold monitoring chart for Jirapa, Week 49, 2017- Week 06, 2018

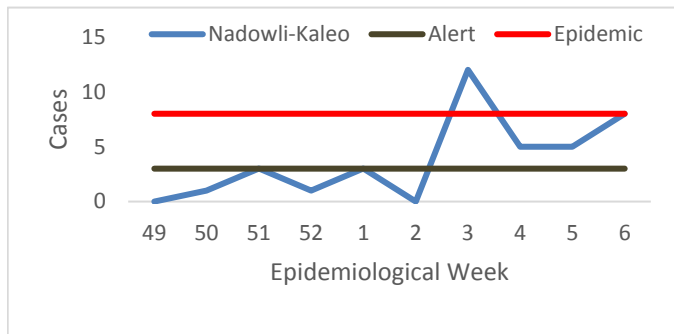


Figure 4: Meningitis threshold monitoring chart for Nadowli-Kaleo, Week 49, 2017- Week 06, 2018

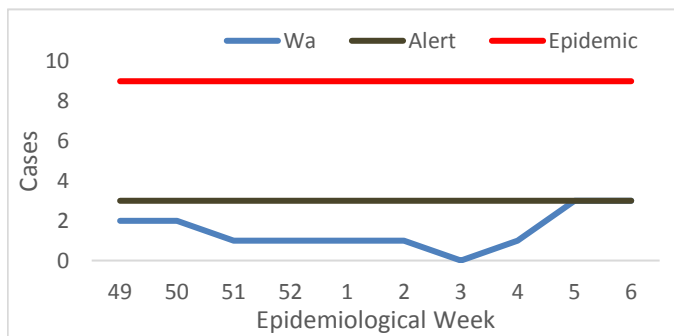


Figure 5: Meningitis threshold monitoring chart for Wa, Week 49, 2017- Week 06, 2018

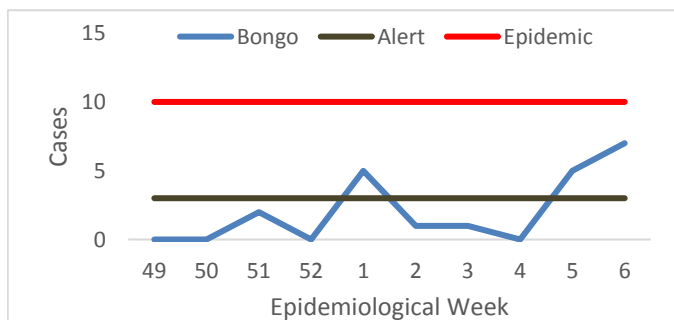


Figure 6: Meningitis threshold monitoring chart for Bongo, Week 49, 2017- Week 06, 2018

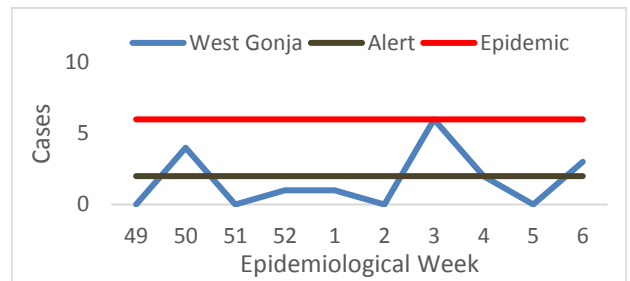


Figure 7: Meningitis threshold monitoring chart for West Gonja, Week 49, 2017- Week 06, 2018

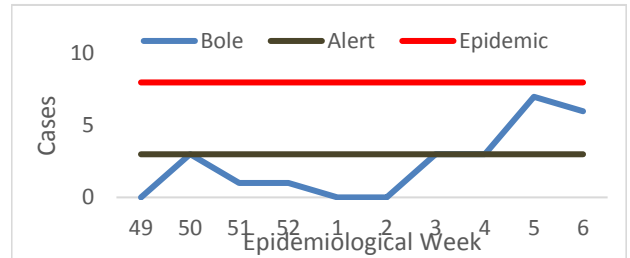


Figure 8: Meningitis threshold monitoring chart for Bole, Week 49, 2017- Week 06, 2018

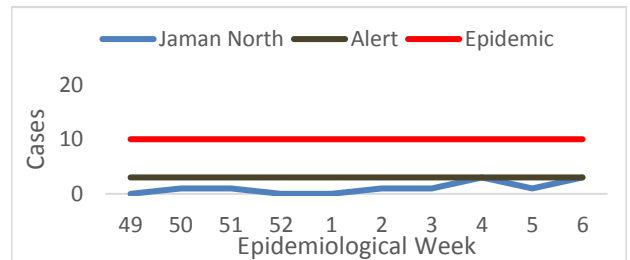


Figure 9: Meningitis threshold monitoring chart for Jaman North, Week 49, 2017- Week 06, 2018

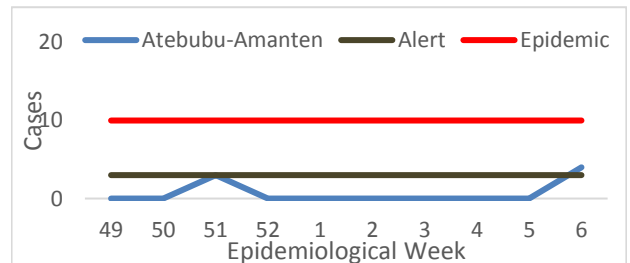


Figure 10: Meningitis threshold monitoring chart for Atebubu-Amanten, Week 49, 2017- Week 06, 2018

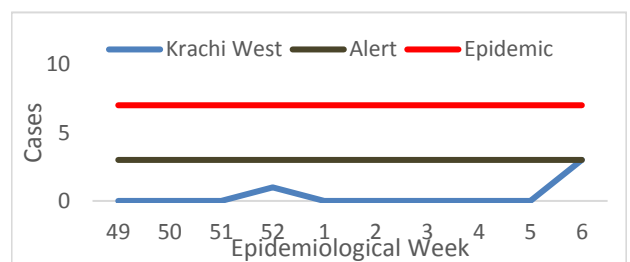


Figure 11: Meningitis threshold monitoring chart for Krachi West, Week 49, 2017- Week 06, 2018

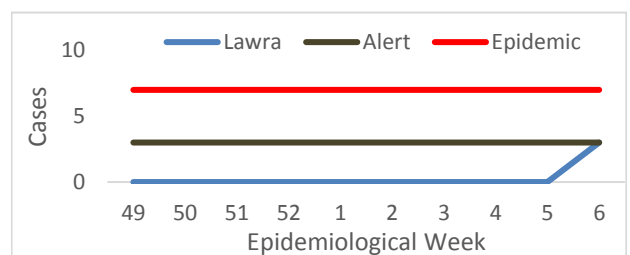


Figure 12: Meningitis threshold monitoring chart for Lawra, Week 49, 2017- Week 06, 2018

DETAILED ANALYSIS OF MENINGITIS TESTING IN NORTHERN AND UPPER WEST REGION

During the week, eight districts in both regions crossed either the alert or epidemic threshold. Lumber puncture and test (both Gram Stain and PCR) were done for all cases. West Gonja recorded three cases and all were confirmed by Culture and PCR representing a high positivity rate of test.

On the other hand, Jirapa and Nadowli- Kaleo which were the two districts in epidemic phase in the week recorded 11 and 8 cases respectively but all were negative for Gram Stain and PCR test representing low positivity test rate. The situation was not different in Daffiama-Bussie-Issa and Wa which recorded negative for all test done for all samples taken. [Table 5]

Table 5: Details of the Gram Stain and PCR tests done for districts in Northern and Upper West, Week 6, 2018

District	Cases	LP Done	No. Tested	Negative	Gram Stain		Culture & PCR			
					GPD	GND	N. meningitidis W	N. meningitidis B	S. pneumoniae	H. influenza
Bole	6	6	6	5	1	0	0	0	1	0
West Gonja	3	3	3	0	2	1	1	0	2	0
Sawla-Tuna-Kalba	3	3	3	3	0	0	0	0	0	0
Daffiama-Bussie-Issa	3	3	3	3	0	0	0	0	0	0
Jirapa	11	11	11	11	0	0	0	0	0	0
Nadowli-Kaleo	8	8	8	8	0	0	0	0	0	0
Wa	3	3	3	3	0	0	0	0	0	0
Lawra	3	3	3	3	1	0	0	0	1	0

CUMULATIVE MENINGITIS CASES IN REGIONS, WEEK 1-6, 2018

As at the end of Week 6, a total 377 suspected cases and 38 deaths (overall CFR=10.1%) have been recorded in all regions. This is close to the bench mark of < 10% which typifies good case management. Upper West has the highest number of suspected cases reported with 175 and 13 deaths representing a CFR of 7.4%. Ashanti region recorded two suspected cases with no death which was the least recorded by a region. Northern region recorded 14 deaths out of the

total of 57 suspected cases with CFR=24.6%. The highest CFR=50% was recorded in Western which recorded four suspected cases and two deaths [Table 6]. Lumber Puncture was done for 368 (97.6%) of the 377 suspected cases and 55 were CSF positive with the following breakdown; Gram negative diplococci – 5, *H. influenza* – 1, *N. meningitidis W* – 17, *N. meningitidis B* – 1 and *S. pneumoniae* – 31 [Table 7].

Table 6: Cumulative Meningitis cases and deaths by Regions, Ghana, Week 1-6, 2018

Region	Cases	Deaths	CFR* (%)	Cumulative Number of District in Alert (Week 1-6)	Cumulative Number of District in Epidemic (Week 1-6)
Ashanti	2	0	0.0	0	0
Brong-Ahafo	53	8	15.1	3	0
Central	1	0	0.0	0	0
Eastern	7	2	28.6	0	0
Greater Accra	11	0	0.0	0	0
Northern	57	14	24.6	2	1
Upper East	57	6	10.5	3	0
Upper West	175	13	7.4	5	3
Volta	10	0	0.0	1	0
Western	4	2	50.0	0	0
Ghana	377	38	10.1	14	4

*Case Fatality Rate

Table 7: Regional distribution of Meningitis pathogens, Ghana, Week 1-6, 2018

Region	Cases	LP*	CSF Positive	GND*	H. influenza	N. meningitidis W	N. meningitidis B	S. pneumoniae
Ashanti	2	2	0	0	0	0	0	0
Brong-Ahafo	53	52	17	1	0	2	0	14
Central	1	1	0	0	0	0	0	0
Eastern	7	6	1	1	0	0	0	0
Greater Accra	11	11	0	0	0	0	0	0
Northern	57	57	21	0	0	10	1	10
Upper East	57	57	5	0	1	2	0	2
Upper West	175	172	11	3	0	3	0	5
Volta	10	7	0	0	0	0	0	0
Western	4	3	0	0	0	0	0	0
Grand Total	377	368	55	5	1	17	1	31

*Lumbar Puncture

* Gram negative diplococci

INFLUENZA-LIKE ILLNESS

A total of 590 cases with no deaths were reported through the IDSR weekly reporting system. [Table 8]. Samples were taken and sent to Noguchi Memorial Institute for Medical Research (NMIMR) for laboratory investigation. No test was done due to the shortage of reagents.

Table 8: Reported Influenza-Like Illness cases by Region and District, Ghana, Week 06, 2018

Region	Districts	Cases	Deaths
Ashanti	Adansi South	12	0
	Bekwai	8	0
	Ejisu-Juaben	35	0
Brong-Ahafo	Sunyani	7	0
Central	Asikuma-Odoben-Brakwa	22	0
	Brakwa	22	0
Eastern	Cape Coast	55	0
	Birim Central	3	0
	Kwaebibirem	3	0
Greater Accra	New Juaben	133	0
	Accra	73	0
	Ga East	53	0
	Ga West	18	0
	La Dade Kotopon	16	0
	Ledzokuku-Krowor	26	0
	Ningo-Prampram	2	0
	Shai Osudoku	46	0
	Tema	72	0
	Upper East	Bolgatanga	6
Total		590	0

MEASLES

During Week 6, a total of 39 suspected cases of Measles were reported from 27 districts in six regions [Table 9]. All samples were sent to the National Public Health Reference Laboratory (NPHRL) for investigation and none was confirmed as Measles positive.

Table 9: Reported Suspected Measles cases by Region and District, Ghana, Week 06, 2018

Region	Districts	Cases	Deaths
Ashanti	Atwima Mponua	1	0
	Bekwai	1	0
	Bosomtwe	1	0
	Dormaa Central	1	0
	Jaman North	4	0
	Jaman South	1	0
	Nkoranza North	4	0
	Sene East	1	0
	Sunyani West	1	0
	Tano South	1	0
Brong-Ahafo	Techiman North	1	0
	Akuapim South	1	0
	East Akim	1	0
	New Juaben	1	0
Eastern	West Akim	1	0
	Ga South	1	0
	Ledzokuku-Krowor	1	0
	Tema	1	0
Greater Accra	Ho	2	0
	Hohoe	3	0
	Ketu South	2	0
	North Dayi	2	0
	Aowin	1	0
Volta	Jomoro	1	0
	Prestea-Huni-Valley	1	0
	Sekondi-Takoradi	1	0
	Tarkwa-Nsuem	2	0
Total		39	0

ACUTE FLACCID PARALYSIS (SUSPECTED POLIOMYELITIS)

Seven cases of Acute Flaccid Paralysis (AFP) were reported by seven districts in four regions [Table 10]. All the stool specimens tested at the National Public Health and Reference Laboratory were negative for wild polio virus.

Table 10: Suspected Poliomyelitis cases and deaths by Region and District, Ghana, Week 06, 2018

Region	Districts	Cases	Deaths
Brong-Ahafo	Techiman North	1	0
Eastern	Birim North	1	0
Upper East	Pusiga	1	0
Western	Ahanta West	1	0
	Jomoro	1	0
	Sefwi-Wiawso	1	0
	Wassa-Amenfi East	1	0
Total		7	0

YELLOW FEVER

During the week, 14 suspected cases of Yellow Fever were reported in 11 districts in seven regions. [Table 12]. All cases tested negative for yellow fever IgM at the National Public Health and Reference Laboratory, Korle-Bu, Accra.

Table 12: Laboratory investigation of suspected Yellow Fever cases, Ghana, Week 06, 2018

Region	District	Suspected	Samples Taken	Lab Confirmed		Deaths
				Presumptive	Positive	
Ashanti	Sekyere Central	1	1	0	1	0
	Asunafo North	2	2	0	2	0
	Banda	1	1	0	1	0
Brong-Ahafo	Jaman South	1	1	0	1	0
	Nkoranza North	2	2	0	2	0
Central	Upper Denkyira East	2	2	0	2	0
Eastern	Birim North	1	1	0	1	0
Volta	Ketu South	1	1	0	1	0
Northern	Bole	1	1	0	1	0
	Bia East	1	1	0	1	0
Western	Bibiani Anhwiaso-Bekwai	1	1	0	1	0
Total		14	14	0	14	0

ACTION POINTS

- All regions and districts are requested to update their preparedness and response plans for Meningitis, Viral Haemorrhagic Fever and influenza. Regions are as well urged to continue surveillance on meningitis.
- For every case of meningitis, a lumbar puncture should be done and cerebrospinal fluid tested with Gram stain and latex agglutination; samples should be inoculated into Trans-Isolate bottles for confirmation by culture at the respective regional laboratory. It is mandatory that Brong-Ahafo, Northern, Upper East and Upper West

CHOLERA

In week 6, there was no suspected case of cholera.

MATERNAL DEATHS

During the week, there were two maternal deaths reported in two regions [Table 11].

Table 11: Maternal deaths by Region and District, Ghana, Week 06, 2018

Region	Districts	Deaths
Ashanti	Offinso North	1
Eastern	New Juaben	1
Total		2

regions send samples frozen in cryotubes to Tamale Zonal Public Health Laboratory (PHL) for Polymerase Chain Reaction Test (PCR)

- All regions are to ensure that influenza sentinel sites pick samples from the first five influenza-like illnesses (ILI) each week and send to Noguchi for testing. For all hospitalized ILI (e.g., pneumonia), nasal and oropharyngeal swabs are to be sent to the National Influenza Center. All SARI and ILI patients seen by sentinel and non-sentinel sites should be entered on the weekly summary form in the DHIMS.

- Regions are to adhere to the case definition of all priority diseases/conditions before putting cases on the line list.
- Surveillance on viral haemorrhagic fevers should be enhanced in regions, districts, health facilities and the Points of Entry (ground crossing, airport and ports). Blood samples from suspected cases should be taken, placed in viral transport medium and sent to NMIMR for

laboratory investigations.

- This report and subsequent ones should be shared with other regional, district and other heads. You are encouraged to disseminate to other agencies as well.
- The DSD, NPHRL and the National Influenza Center should work towards procuring reagents for investigating acute respiratory infections.

ANNEX 1: SUMMARY OF REPORTED CASES/ EVENTS: WEEK 06 (WEEK ENDING 11 FEBRUARY, 2018)

Disease/Health Event (suspected/confirmed)	Week 05			Week 06			Cumulative to Week 06		
	Cases (susp)	Deaths	CFR (%)	Cases (susp)	Deaths	CFR (%)	Cases (susp)	Deaths	CFR (%)
AFP (suspected polio)	7	0	0.0	5	0	0.0	36	0	0.0
Acute haemorrhagic fever syndrome	0	0	-	0	0	-	1	0	0.0
Adverse events following immunization	0	0	-	0	0	-	0	0	-
Anthrax	0	0	-	0	0	-	0	0	-
Acute watery diarrhoea in persons aged >5 years	969	0	0.0	1,057	0	0.0	5,881	0	0.0
Cholera	0	0	-	0	0	0.0	0	0	-
Dengue fever	0	0	-	0	0	-	0	0	-
Diarrhoea with blood	85	0	0.0	61	0	0.0	456	0	0.0
Dracunculiasis (Guinea worm)	1	0	0.0	0	0	-	1	0	0.0
Influenza-like illness	677	0	0.0	590	0	0.0	3,925	0	0.0
Maternal deaths	-	1	-	-	2	-	-	10	-
Measles	31	0	0.0	39	0	0.0	181	1	0.6
Meningitis	53	4		77	17	22.1	301	31	10.1
Neonatal tetanus	0	0	-	1	0	0.0	1	0	-
Plague	0	0	-	0	0	-	0	0	-
Public health event of international concern (PHEIC)	0	0	-	0	0	-	0	0	-
Human rabies	1	1	100.0	0	0	-	3	3	100.0
SARS	0	0	-	0	0	-	0	0	-
Smallpox	0	0	-	0	0	-	0	0	-
Yellow fever (suspected)	17	0	0.0	14	0	0.0	70	0	0.0
NATIONAL TOTAL	1,840	6	0.3	1,844	19	0.9	10,855	45	0.3

*CFR does not include maternal deaths

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