



GHANA HEALTH  
SERVICE/MINISTRY  
OF HEALTH

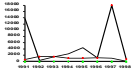
WEEKLY

EPIDEMIOLOGICAL

BULLETIN

Week Ending 23rd May 2010 (Week 20)

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For the week ending 23rd May 2010 (Week 20 of 2010)

**Highlights of the week:**

- ➔ *Note that Epidemiology Week starts on Monday and ends on Sunday.*
- ➔ *All districts were below the alert threshold for meningitis.*

**Editorial Board**

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**1.0 Introduction**

This bulletin serves to provide feedback on surveillance activities, and summarizes surveillance data and performance on epidemic prone diseases and other public health emergencies for Week 20 of 2010 (week ending 23rd May 2010) as reported on CD1 from regions and districts. It compares timeliness and completeness of reporting, disease outbreaks/epidemics and responses. It also includes discussions on comparative performance of regions and districts and recommendations for action.

**2.0. Epidemic Prone Diseases****2.1. Meningitis****Case definitions****1. Suspected meningitis case:**

Any person with sudden onset of fever ( $>38.5^{\circ}\text{C}$  rectal or  $\geq 38.0^{\circ}\text{C}$  axillary) and one or more of the following signs: neck stiffness, altered consciousness or other meningeal sign and or petechial or purpurial rash. In patients under one year, a suspected case of meningitis occurs when fever is accompanied by bulging fontanelle.

**2. Probable meningitis case:**

Suspected case as defined above; WITH turbid CSF (with or without Gram stain) **OR** Ongoing epidemic.

**3. Confirmed meningitis case:-**

Isolation from the CSF of a suspected case of the causal pathogens (*N. meningitides*, *Streptococcus pneumoniae*, *Haemophilus influenzae b* etc).

It is important to note that, surveillance in this regard is on meningitis and that all suspected, probable and confirmed cases that fit the case definition of meningitis should be investigated and reported on.

### **Epidemiological Thresholds:**

In calculation of threshold, use all cases; suspected, probable and confirmed.

#### **Alert threshold:**

Population between 30 000 and 100,000; an attack rate of 5 cases per 100,000 inhabitants per week in one week.

Population less than 30,000; two cases in one week or an increase in the number of cases compared to the previous non-epidemic years

#### **Epidemic threshold:**

For population between 30,000 and 100,000: an attack rate of 10 cases per 100,000 inhabitants per week in one week.

Population less than 30,000: 5 cases in 1 week or doubling of the number of cases over a 3-week period.

#### **Sample calculation of thresholds:**

A district with population 60,000; Alert threshold will be  $5/100,000 * 60,000 = 3$ ; and Epidemic threshold is  $10/100,000 * 60,000 = 6$ . If there is the need to round off, it will be prudent to round off to the lower figure to make it more sensitive. Thus if the calculated alert threshold is 3.5, it will be better to use 3 as the alert threshold for the district instead of 4.

Districts with population more than 100,000 are advised to use sub-district populations in the monitoring of alert and epidemic thresholds to ensure optimal sensitivity.

**Neighbouring district:** As soon as epidemic is declared at a district, all the districts that share boundary with that district immediately reaches the alert threshold irrespective of the number of cases seen. Hence all requisite preparations that need to be done in the alert phase must be activated.

#### **Current situation:**

The number of meningitis cases and deaths remained the same during the week under review compared to the previous week. A total of 8 suspected cases with one death (CFR = 12.5%) were reported from 7 districts in 3 regions; namely Ashanti (1 case, no death); Upper East (5 cases, 1 death); and Upper West (1 cases, no death).

For the laboratory investigations, out of the 8 suspected cases, specimens were taken from 6 of them and no organisms were isolated from any of the specimens.

During the same period last year, there were two cases with no death; both from the Northern region.

Table 1 and spot map below shows the distribution of meningitis cases per district.

**Table 1: Epidemiological situation of Meningitis in Ghana, Week 20 of 2010 (17th May 2010 to 23rd May 2010)**

*Region	*District	Cases	Deaths	CFR (%)	LPs	Reached Threshold		Type of Organism				
						Alert	Epidemic	NmA	Nm-W135	Nm untyped	Strep pneum	Hib
Ashanti	Ahafo-Ano North	1	0	0.0	1	No	No	0	0	0	0	0
Upper East	Bawku West	1	0	0.0	0	No	No	0	0	0	0	0
	Builsa	1	0	0.0	1	No	No	0	0	0	0	0
	Kassena-Nankana	1	0	0.0	1	No	No	0	0	0	0	0
	Kassena-Nankana West	2	1	50.0	2	No	No	0	0	0	0	0
Upper West	Lawra	1	0	0.0	0	No	No	0	0	0	0	0
	Wa	1	0	0.0	1	No	No	0	0	0	0	0
<b>Ghana</b>		<b>8</b>	<b>1</b>	<b>12.5</b>	<b>6</b>			<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>

\*Districts and Regions reporting at least one (1) case

Figure 1 shows the spot map of the distribution of meningitis cases nationwide for Week 20 of 2010. One dot represents a case of meningitis.

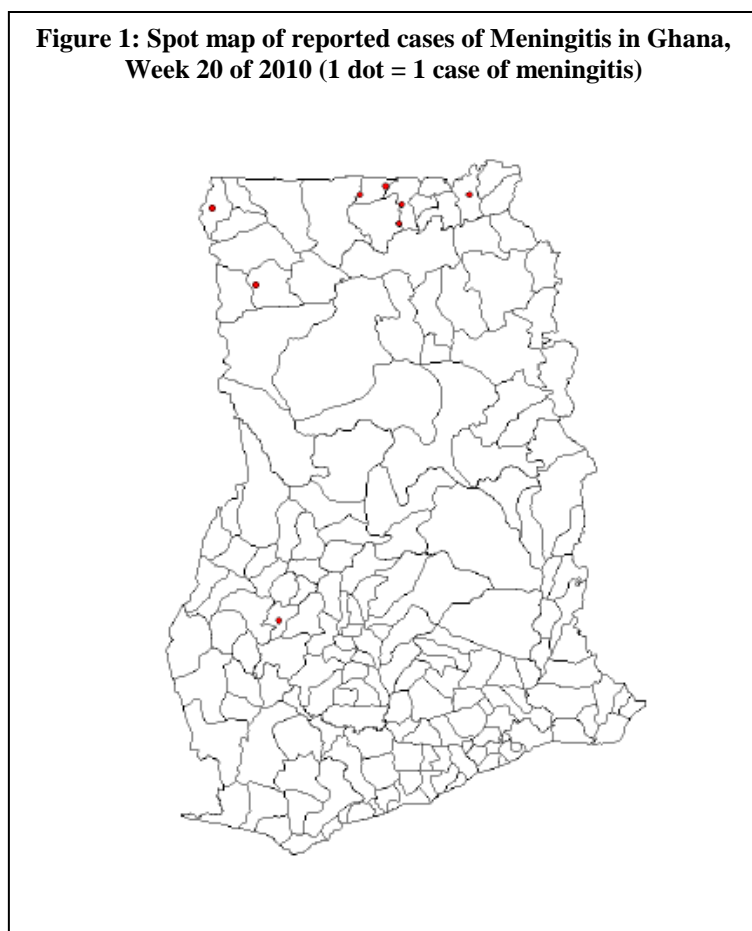
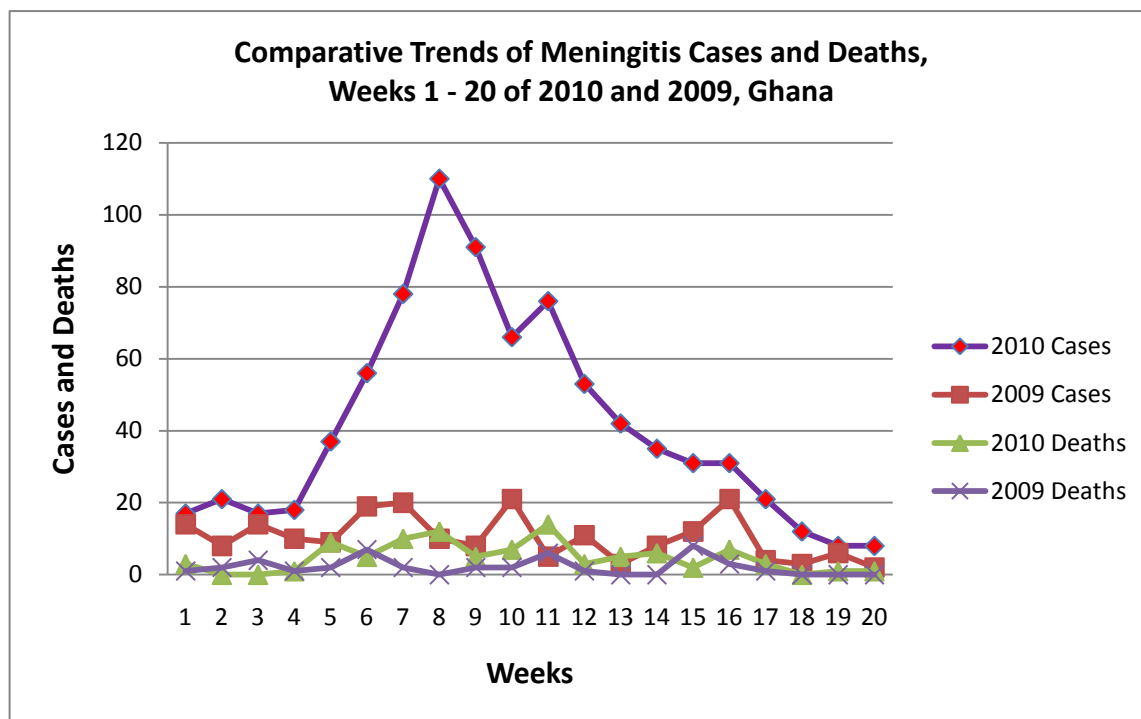


Figure 2 and Table 2 below show comparative meningitis surveillance indicators of weeks 1-20 for 2010 and 2009. More cases were seen in 2010 as against 2009.

**Figure 2:**



**Table 2: Comparative Meningitis surveillance indicators Week 20 of 2010 & 2009**

Meningitis	2010 Wk 19	2010 Wk 20	2009 Wk 20	Remarks
Total cases	8	8	2	Four times more cases in 2010 than 2009
Total deaths	1	1	0	
CFR (%)	12.5	12.5	0.0	Case fatality rate much higher in 2010
Nm un-typed	0	0	0	
NmW135	0	0	0	
% NmW135	-	-	0.0	
S-Pneum	0	0	0	
Hib	0	0	0	
Others	0	0	0	

Lumbar Puncture rate was 75.0%. Districts and regions are urged to perform lumbar puncture on all suspected cases of meningitis for further investigation.

## 2. 2 Cholera

### Case definitions

Cholera is immediately notifiable under International Health Regulations, and the standard case definitions used are as follows:

## **Suspected Cholera**

A case of cholera should be suspected when:

- In an area where epidemic is not known to be occurring, a patient, 5 years of age or older, develops dehydration or dies from acute watery diarrhoea.
- In an area where an epidemic is occurring, a patient, 5 years of age or older develops acute watery diarrhoea, with or without vomiting

NB! Children under 5 years of age are excluded from the case definition because, in this age group, a number of pathogens can produce symptoms similar to those of cholera. For surveillance purposes, to ensure specificity in the detection of cholera, children under 5 years of age are not included in the case definition of cholera. This does not in any way suggest that children under 5 years of age cannot have cholera.

## **Confirmed Cholera**

A case of cholera is confirmed when:

*Vibrio cholerae* 01 or 0139 is isolated from any person with diarrhoea.

It is important to note that, surveillance in this regard is on diarrhoeal diseases that fit the case definition of cholera and not necessarily confirmed cholera; and that all cases that fit the case definition of suspected and confirmed cholera should be investigated and reported on. Health workers need to increase their index of suspicion, especially as we enter the rainy season.

**Surveillance goal:** Early detection, timely notification and appropriate response.

## **What to do if a case of cholera is suspected**

- Take samples (stool or rectal swab) to the laboratory to establish the diagnosis; before antibiotic treatment is started.
- Report case-based information and notify the public health unit immediately.
- Enhance surveillance
- Manage and treat the case(s) according to national guidelines.
- Enhance strict hand-washing and isolation procedures.
- Conduct case-based investigation to identify similar cases not previously reported.

## **Response to Epidemic**

### **If a case of cholera is confirmed:**

- Establish, strengthen and maintain treatment centre in locality where cases occur. Treat cases onsite rather than asking patients to go to standing treatment centres elsewhere, as case transportation increases the tendency of spreading the cases.
- Strengthen case management.
- Mobilize community early to enable rapid case detection and treatment. Survey the availability of clean drinking water.
- Work with community leaders to limit the number of funerals or other large gatherings for ceremonies or other reasons, especially during an epidemic.

- Reduce sporadic and outbreak-related cases through continuous access to safe water. Promote safe preparation of food (especially seafood, fruits, and vegetables). Promote safe disposal of human waste.
- Enhance surveillance and analyze surveillance data promptly and frequently.
- Conduct outbreak investigation and share findings.

**Current situation:**

There were no reported case(s) of Cholera during the week under review.

At the same period last year, there were no cases of cholera.

**2.3 Dysentery (Bloody Diarrhoea)**

**Case definitions**

**Suspected case:**

A person with diarrhoea and visible blood in the stool.

**Probable case:**

Clinically compatible case that is epidemiologically linked to a confirmed case.

**Confirmed case:**

Suspected case with stool culture positive for Shigella or isolation of Shigella dysenteriae from a clinical specimen.

**Surveillance goal:** Early detection, timely notification, prompt and appropriate response.

**What to do if a case of dysentery is suspected**

- Take samples (stool or rectal swab) to the laboratory to establish the diagnosis; before antibiotic treatment is started.
- Report case-based information and notify the public health unit immediately.
- Enhance surveillance
- Manage and treat the case according to national guidelines.
- Enhance strict hand-washing and isolation procedures.
- Conduct case-based investigation to identify similar cases not previously reported.
- Investigate the case to determine risk factors contributing to transmission.

**Response to epidemic**

**If a suspected case is confirmed:**

- Search for additional cases in locality of confirmed case.
- Strengthen case management.
- Mobilize community to enable rapid case detection and treatment.
- Identify high-risk populations using person, place, and time data.
- Reduce sporadic and outbreak-related cases by promoting hand washing with soap or ash and water after defecating and before handling food, strengthening access to safe water supply and storage, and use of latrines and safe disposal of human waste.
- Enhance surveillance



## Current situation:

No cases of bloody diarrhoea / dysentery were reported.

All districts are encouraged to intensify surveillance and investigation of all diarrhoeal diseases to identify the aetiology as to whether it is Cholera, Bacillary Dysentery or Food Poisoning.

### 2.4 Measles

For the period under review, 9 suspected cases with no death due to measles were reported from 9 districts in 5 regions. Ashanti region reported 3 cases, Eastern region 2, Greater Accra region 2, Upper West and Western region one each. All the cases tested negative to measles and rubella IgM. During the same period last year, a total of 19 suspected measles cases were reported from 14 districts in 7 regions. Three cases were confirmed positive for measles IgM, one each from Amansie West district, Kwahu West and Tema districts. All the cases tested negative for rubella IgM. Tables 3 and 4 below gives more detail of suspected and confirmed measles cases for the week.

**Table 3: Reported (suspected and confirmed) cases of Measles in Ghana, Week 20 of 2010 and 2009**

Year	No. Suspected	No. Positive Measles IgM	No. Equivocal for Measles	No. Positive for Rubella	Remarks
2010	9	0	0	0	Figures may change pending Lab reports
2009	19	3	0	0	

**Table 4: Cumulative cases of Measles in Ghana, week 1 to 20 of 2010**

Number of suspected case	Number confirmed, Measles IgM positive	Number equivocal for measles
254	14	3

### 2.5 Poliomyelitis

Two cases of AFP were reported from 2 districts in 2 regions during the week under review. Greater Accra region reported one case from Accra metropolis and Volta region one case from Keta municipality.

### 2.6 Yellow fever

No district reported any suspected case of yellow fever during the period under review. All districts are therefore being encouraged to intensify yellow fever surveillance.

### 2.7 Guinea worm

No case of Guinea worm was reported during the reporting period. Due to the eradication programme, regions and districts are to intensify case search and document as such by reporting all suspected cases. This action is very critical during an eradication phase.

### 2.8 Pandemic Influenza H1N1 2009

During the week under review, 121 specimens were received and processed at the NMIMR for suspected cases of influenza. Eighteen cases were confirmed positive for influenza A, all of which

were Pandemic influenza A H1N1. Cumulative year 2010 of Pandemic Influenza positive cases week 1 to 20 is 637. Table 5 below gives a summary of specimens received and processed at the NMIMR for suspected cases of influenza for Week 20 and cumulative weeks 1 to 20 of 2010.

Table 5: Pandemic Influenza H1N1 Cases, Ghana, Week 20 of 2010.

Number Positive Pandemic Influenza A (H1N1) Week 20 of 2010	Cumulative Positive, Pandemic Influenza A (H1N1) Wk 1-20 of 2010
18	637

### 3.0 Reporting

#### 3.1 Timeliness and Completeness

For the week under review, timeliness and completeness of reporting from the regions were 70% and 67% respectively. With the exception of Eastern, Volta and Western regions who did not submit any data for the period, all regions were timely and complete in the submission of weekly report.

#### 4. 1 Conclusion

The number of reported meningitis cases remains on downward trend and no district reached the alert threshold. It is incumbent on all districts to enhance surveillance on meningitis. Similarly, districts are being advised to increase their index of suspicion of cholera and shigella cases. The number of confirmed cases of Pandemic Influenza A (H1N1) still remains high and was more than double the number reported the previous week.

#### 5.1 Recommendations for action

1. Regions and districts to sustain activation of epidemic management committees; epidemic preparedness plan, stock and preposition requisite logistics to manage outbreaks.
2. Continue enhanced surveillance on meningitis, cholera, H1N1 and all the other priority diseases with epidemic potential for early detection, effective prevention, timely and appropriate response.
3. Regions are being urged to report cases of Pandemic Influenza 2009 on weekly basis and enhance surveillance on influenza like illnesses (ILIs)
4. Eastern, Volta and Western regions are encouraged to submit weekly morbidity surveillance data timely and completely.

#### 6.0 Acknowledgement

We acknowledge the efforts of all staffs of the Disease Surveillance Department at national level especially Mr Kwame Kodom Achempem, Ms Elizabeth Alhassan and Ms Magdalene Shang-Quartey; for the assistance in the production of this bulletin. We also acknowledge all surveillance staff at the regional and district health teams, and indeed community health workers in the collection and collation of data for this bulletin.

## 7.0 Annex 1

Table 6 below shows summary of morbidity and mortality of epidemic prone diseases reported from the districts/regions for Week 20 of 2010. It includes only districts / regions that have reported at least one case of any condition on the CD1 form.

**Table 6: Reported Cases and Deaths of Epidemic Prone diseases from district/regions of Ghana, Week ending 23rd May 2010 (Week 20 of 2010)**

Region	*District	Meningitis		Suspected Cholera		Measles		Suspected YF		AFP		Suspected Guinea worm	
		C	D	C	D	C	D	C	D	C	D	C	D
Ashanti	Ahafo-Ano South	1	0	0	0	0	0	0	0	0	0	0	0
	Amansie West	0	0	0	0	1	0	0	0	0	0	0	0
	Bosomtwe	0	0	0	0	0	0	0	0	0	0	0	0
	Ejura-Sekodumasi	0	0	0	0	0	0	0	0	0	0	0	0
	Kumasi	0	0	0	0	1	0	0	0	0	0	0	0
	Offinso	0	0	0	0	1	0	0	0	0	0	0	0
Brong Ahafo	Asutifi	0	0	0	0	0	0	0	0	0	0	0	0
	Sunyani West	1	0	0	0	0	0	0	0	0	0	0	0
	Tain	0	0	0	0	0	0	0	0	0	0	0	0
Eastern	Asuogyaman	0	0	0	0	1	0	0	0	0	0	0	0
	Fanteakwa	0	0	0	0	1	0	0	0	0	0	0	0
	New Juaben	2	0	0	0	0	0	0	0	0	0	0	0
Greater Accra	Accra	0	0	0	0	1	0	0	0	1	0	0	0
	Ga East	0	0	0	0	1	0	0	0	0	0	0	0
Northern	Bunkpurugu-Yunyuo	1	0	0	0	0	0	0	0	0	0	0	0
Upper East	Bawku West	1	0	0	0	0	0	0	0	0	0	0	0
	Kassena-Nankana West	2	1	0	0	0	0	0	0	0	0	0	0
Upper West	Nadowli	0	0	0	0	1	0	0	0	0	0	0	0
Volta	Keta	0	0	0	0	0	0	0	0	1	0	0	0
Western	Sefwi-Wiawso	0	0	0	0	1	0	0	0	0	0	0	0
<b>Ghana</b>		<b>8</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>9</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>2</b>	<b>0</b>	<b>0</b>	<b>0</b>

\*Districts that reported at least 1 case for any of the conditions on CD1 form; C = Cases D = Deaths

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