



**EPIDEMIOLOGICAL BULLETIN: Weekly/Volume 2/Number 20/ Page 1-8 /15-21May 2016**  
Abyot Bekele, MPH<sup>1</sup>

<sup>1</sup>Ethiopian Public Health Institute, Center for Public Health Emergency Management, Telephone 0112765340/0112758631 Tall Free 8335/8665, Fax 0112758634, Email: PHEMcenter@ephi.gov.et, Website: www.ephi.gov.et, PO. Box 1242, Swaziland Street, Addis Ababa

**Highlights of the Week:**

- ✦ The national Surveillance report completeness and timeliness rate are 91.5%;
- ✦ The new weekly Severe Acute Malnutrition (SAM) cases are increasing in Somali regions, while East and West Hararge zone still reporting high cases;
- ✦ Malaria is alarming in 39 malaria hotspot woredas which needs close follow up and investigation.
- ✦ Measles crosses the normal threshold (five suspected cases per month) in 22 woredas;
- ✦ Additional team sent to Dolloado and Dollobay woredas Somali region Mada Walabu woredas of Bale zone to investigate and control AWD outbreaks;
- ✦ A total of 22 Suspected Yellow Fever cases were reported from South Ari woreda of South Omo zone. The laboratory investigation using ELISA techniques turned negative for all samples (Samples are acute). One convalescent serum tested positive for yellow Fever by ELISA test which is probably yellow fever case as there is may be cross reactivity with other flavi viruses. Samples is under process to be sent to IP Dakar reference laboratory for further investigation

**I. Introduction**

This Epidemiological Weekly Bulletin serves to provide key information on public health emergency management activities, and summarizes surveillance data and performance on epidemic prone diseases and other public health emergencies. The bulletin mainly includes surveillance data of week 20 of 2016 and daily phone communication, line list reports of outbreaks for week 21 of 2016. It highlights the surveillance completeness and timeliness across the regions, trends of diseases under surveillance, cluster of cases and events, ongoing outbreaks and responses undertaken at all levels in Ethiopia. The number of disease specific cases indicated in this issue of bulletin are subject to change due to on-going receiving late surveillance data and retrospective verification and investigation of data from outbreak areas.

**II. Surveillance report completeness and timeliness**

**Completeness:** The national completeness rate of reports from government health facilities was 91.5% . Except for Gambella and Afar regions all the regions has fulfilled the expected minimum completeness rate for the week. Afar region which has a challenge on reporting in the last few weeks has shown improvement (Figure 1).

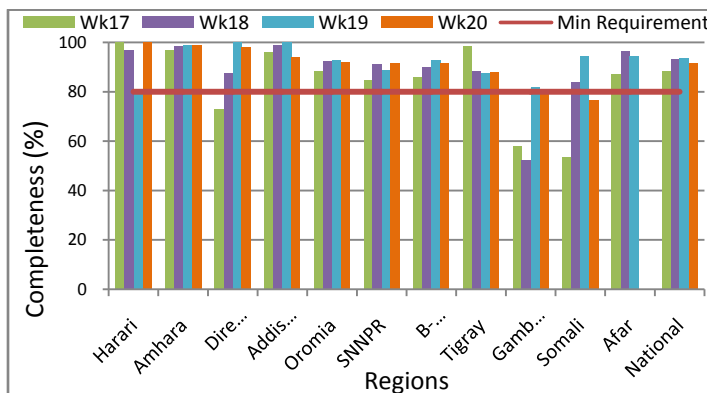


Figure 1: Regional Surveillance Report Completeness, Week 17-20/2016

**Timeliness:** In week 20, the national surveillance timeliness rate was 91.5% which is above minimum requirement. From all regional states and city administrations nine of them achieved more than 80% surveillance report timeliness. Afar region kept reporting lately (Figure 2).

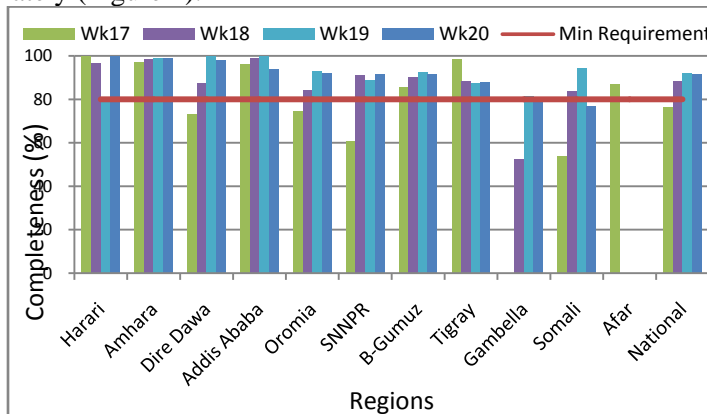


Figure 2: Regional Surveillance Report Timeliness, Week 17-20/2016

# Weekly Epidemiological Bulletin

## III. Diseases and conditions

### 1) Severe Acute Malnutrition (SAM)

**National SAM Trend:** A total of 4,332 SAM cases were reported in week 20 of 2016 which is decreased compared with week 19 of 2016 (Figure 3).

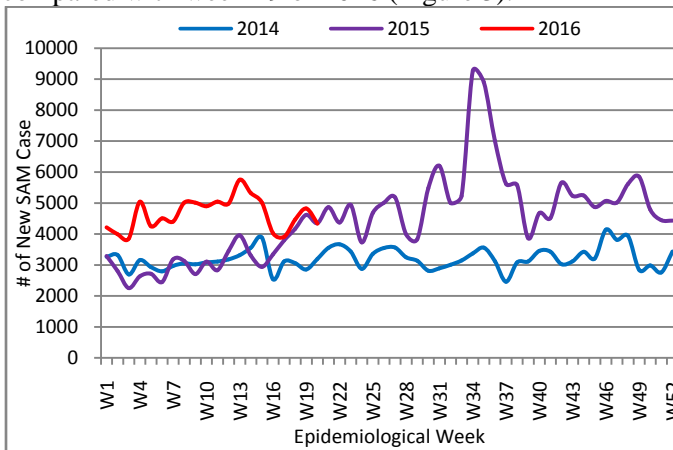


Figure 3: National SAM cases trend, 2014-2016

**Regional SAM Trend:** In week 20 Oromia region has accounted for 52.0 % of the national cases followed by SNNPR (21.0%) and Somali (12.4%) of the national cases. The trend is showing sharply increasing in Somali region within the last four weeks (Figure 4).

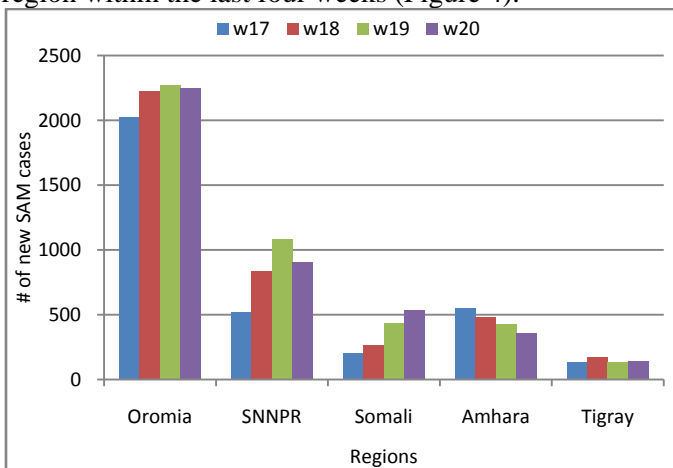


Figure 4: SAM trend by region by week 17-20/2016

The inpatient rate for SAM cases in week 20 was 12% at national level. When further analysis was done at regional level most regions have an inpatient rate of more than 10%, which is the highest acceptable rate. However the high inpatient rate as detailed in table 1 should be further evaluated.

Table 1: New OTP and SC SAM cases and deaths in week 20, 2016

Region	Total SAM	OTP	Inpatient	Death	Inpatient%
Oro	2251	1998	253	2	11
SNNP	910	763	147	3	16
Som	538	507	31	0	6
Amh	360	338	22	2	6
Tigr	144	128	16	1	11
AA	49	39	10	0	20
Harari	30	21	9	0	30
DD	20	18	2	0	10
Gam	16	6	10	1	63
BG	14	10	4	0	29
<b>Total</b>	<b>4332</b>	<b>3828</b>	<b>504</b>	<b>9</b>	<b>12</b>
%		88.4	11.6	1.8	

**Zonal SAM Trend:** In week 20 the top 15 zones with the highest number of SAM cases attributed for 64% of all cases at national level. The highest number of SAM cases was reported from East Hararge contributing to 12% followed by West Hararge contributing 10% of the national cases. The two zones have been contributing to the highest SAM case for the last several weeks (Table 2)

Table 2: Top 15 zones reported highest number of new SAM cases in week 20 of 2016

Region	Zone	W17	W18	W19	W20
Oro	E/Hararge	424	599	624	535
Oro	W/Hararge	295	389	405	429
Oro	W/Arsi	264	406	355	260
SNNP	Sidama	124	207	232	250
Oro	Bale	238	189	230	216
Oro	Guji	128	148	125	161
Oro	Borena	49	43	88	158
SNNP	Gedeo	50	81	142	140
Oro	E/Shewa	93	92	58	102
Som	Jijiga	66	51	78	102
Som	Afder	22	21	75	96
Som	Shinile	14	42	72	86
Oro	Arsi	199	74	95	79
SNNPR	Kembata Tembaro	19	51	73	74
Oromia	W/Shewa	69	39	56	73
<b>Sum Top 15 zones</b>		<b>2054</b>	<b>2432</b>	<b>2708</b>	<b>2761</b>
<b>Sum National</b>		<b>3910</b>	<b>4467</b>	<b>4825</b>	<b>4332</b>
<b>Percent top 15 zones</b>		<b>53</b>	<b>54</b>	<b>56</b>	<b>64</b>

**Woreda SAM Trend:** The top 15 woredas with the highest number of SAM cases in week 20 contributed to 22% of the national SAM cases. Except for Gedeo, Halaba and Degahabur Woredas all the woredas are from Oromia region (table 3).



Table 3: Top 15 woredas reported highest number of new SAM cases in week 20 of 2016

Region	Zone	Woreda	w17	w18	w19	w20
Oro	Bale	Berberere	108	0	21	41
Oro	Borena	Abaya	19	14	54	62
Oro	E/Hararge	Fedis	61	67	81	106
Oro	E/Hararge	Kersa EH	29	41	43	65
Oro	E/Hararge	Deder	0	45	29	56
Oro	E/Hararge	Chinakesen	23	29	53	39
Oro	E/Hararge	Meta	16	27	44	39
Oro	W/Arsi	Shashemene	51	70	147	131
Oro	W/Arsi	Shala	85	125	50	86
Oro	W/Hararge	Meiso	27	143	57	70
Oro	W/Hararge	Gemechis	37	44	37	63
Oro	W/Hararge	Chiro Z	54	37	54	54
SNNP	Gedeo	Wenago	18	15	43	46
SNNP	Halaba	Halaba T	13	8	16	39
Som	Degehabur	Dagahbur Hos	8	20	26	39
Sum Top 15 woredas			549	685	755	936
Sum National			3910	4467	4825	4332
Percent top 15 woredas			14	15	16	22

## 2) Malaria

**National Malaria Trend:** A total of 32,966 malaria cases were reported in week 20. This is the highest number of report in 2016. The Malaria cases have been increasing starting from week 17 of 2016. Malaria had the same pattern in 2015 and it is expected the number of malaria cases could increase in the coming weeks (Figure 5).

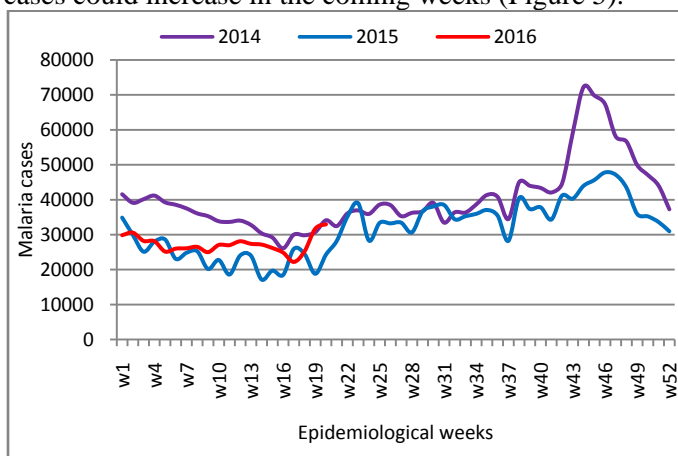


Figure 5: National Malaria cases trend, 2014-2016

**Regional Malaria Trend:** From Amhara region 13,398 malaria cases were reported in week 20, accounting for 41% of all cases. Compared with week 19, this week malaria cases increased in Benishangul Gumuz and Somali

regions.

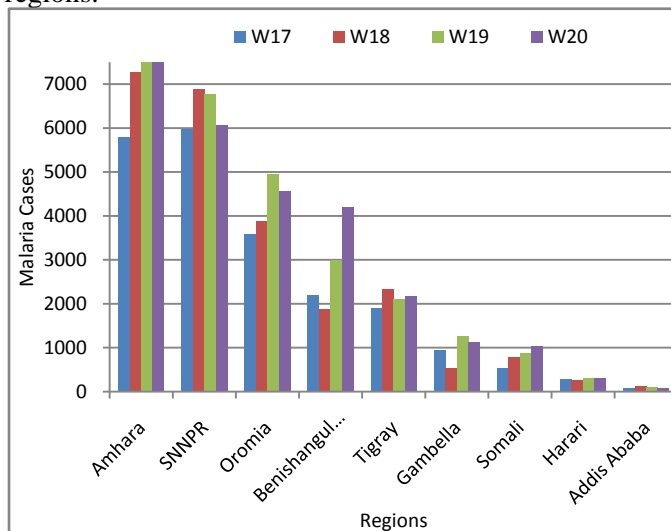


Figure 6: Regional Malaria trend, Week 17-20/2016

In week 20, a total of 137,369 cases suspected for malaria are tested either by microscopy or RDT. Of which 31,362(23%) are ended positive for malaria parasites. PF contributes 20,871 (63.3%) while 10,491 (31.8%) were PV and the rest 1,604 (4.9%) are clinically diagnosed malaria cases. There are only 216(0.6%) inpatient cases with no death reported in the week. When looking at regional level, Somali has reported treating 56% of the cases clinically in week 20. High proportion of clinical malaria case treatment has been observed in the region throughout 2016. Compared with other regions and nationally the Somali pattern is quite different. The reason behind treating high number of patients should be further investigated (Table 4).

Table 4: Regional Malaria cases by type and region, Week 20, 2016

Region	Tested	Malaria	PF	PV	Cli.	Inp	Death	MPR
AA	498	88	25	63	0	0	0	18
Amh	48252	13398	8551	4844	3	86	0	28
BG	9411	4192	2919	681	592	61	0	38
DD	326	9	8	1	0	2	0	3
Gam	2412	1136	912	99	125	8	0	42
Har	400	298	235	53	10	0	0	72
Oro	27487	4568	2831	1596	141	14	0	16
SNNP	38006	6070	3594	2356	120	31	0	16
Som	753	1027	331	116	580	0	0	59
Tig	9824	2180	1465	682	33	12	0	22
Total	137369	32966	20871	10491	1604	214	0	23
%			63.3	31.8	4.9	0.6	0.0	

Note: Tested-Suspected malaria fever cases examined by microscopy or RDT, PF-Plasmodium falciparum, PV-Plasmodium vivax, Cli-Clinical Malaria, Inp-Inpatient malaria cases, MPR, Malaria positivity rate

# Weekly Epidemiological Bulletin

**Zonal Malaria Trend:** Up on disaggregating the data to the zonal level, the total malaria cases have been increased in 23 zones. Among them malaria is increasing in West Gojjem, South Gonder, North Gonder, Asossa, North West Tigray, West Tigray and East Wollega zones (Figure 7.1 & 7.2).

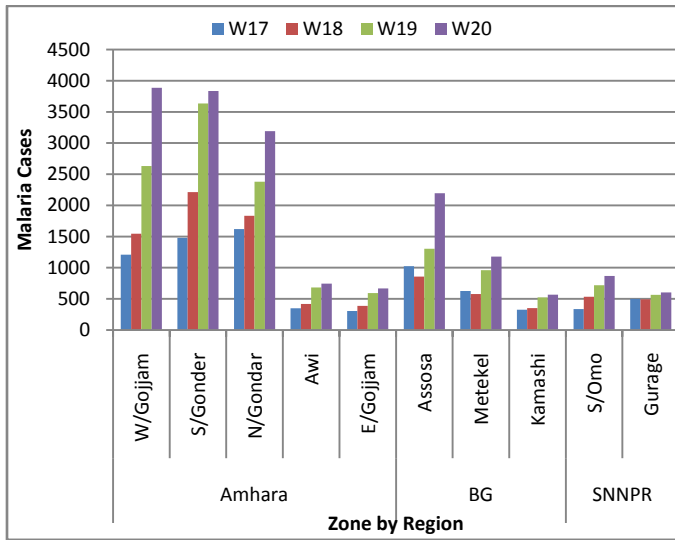


Figure 7.1: Zones in which malaria cases are increased compared with previous week, Week 17-20/2016

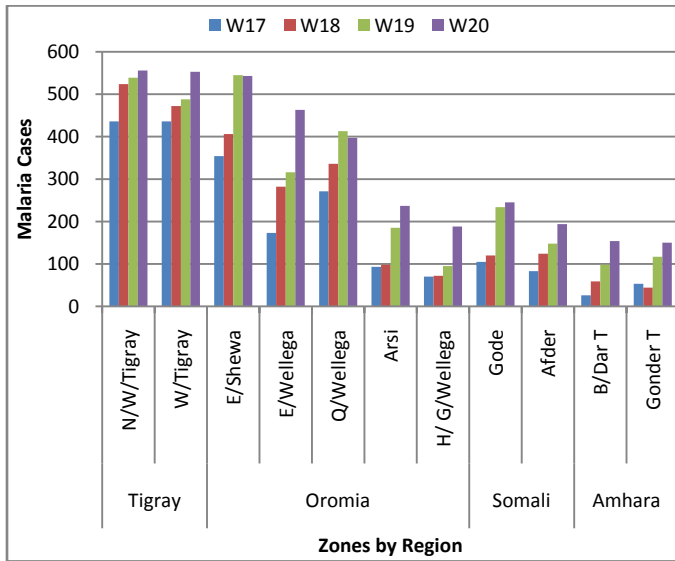


Figure 7.2: Zones in which malaria cases are increased compared with previous week, Week 17-20/2016

**Woreda Malaria Trend:** Up on disaggregating the data to the woreda level, malaria cases have been increased in 39

woredas. Among them malaria cases show increasing in Dembia and Metema woredas of North Gonder zone, Fogera, Dera and Ferta woredas of South Gonder zone, Jebitenan, Quarit and Finota Selam woredas of West Gojjem zones (Figure 8.1, 8.2 & 8.3).

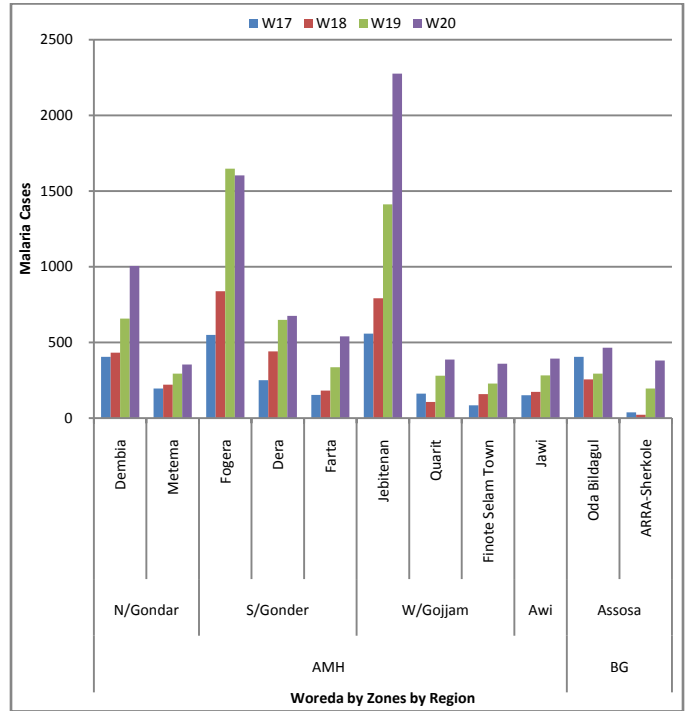


Figure 8.1: Woredas in which malaria cases increased compared with previous week, Week 17-20/2016

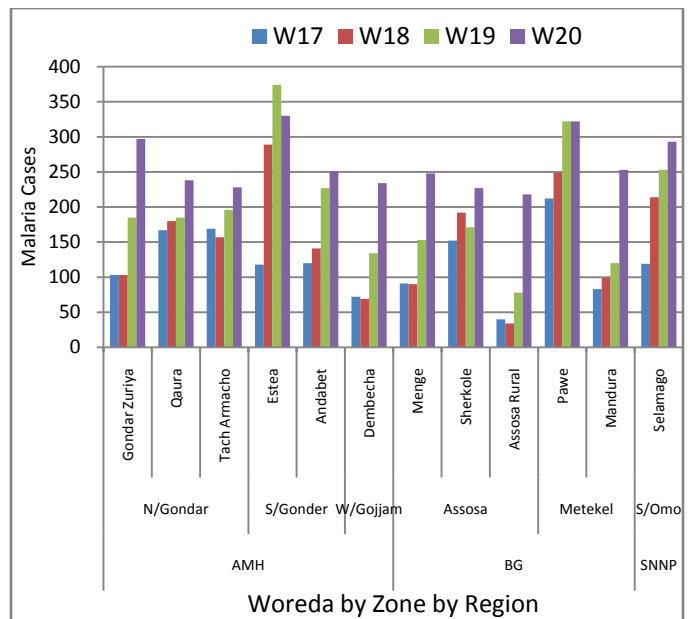


Figure 8.2: Woredas in which malaria cases increased compared with previous week, Week 17-20/2016

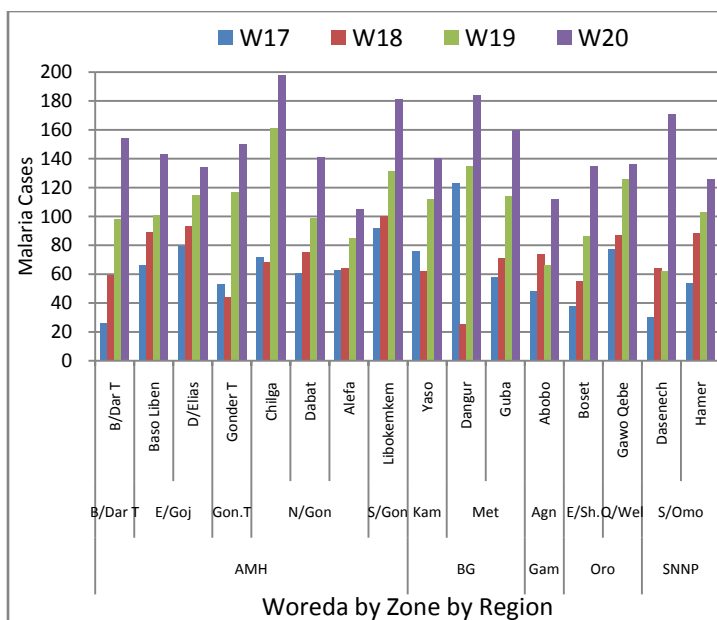


Figure 8.3: Woredas in which malaria cases increased compared with previous week, Week 17-20/2016

### 3) Rabies:

Nationally, a total of 71 rabies exposure cases with zero death are reported in week 20 of 2016. Among them 21 (29%) are reported from Shire Endasilase woreda of North West Tigray and 21(29%) are from Gonder town (Table 5).

Table 5: Regional rabies Exposure cases , Week 20, 2016

Region	Zone	Woreda	E-Cases	%	Deaths
AA	Arada	Arada	1	1	0
Amh	G/Town	Gonder T	21	29	0
Amh	N/Shewa	D/brehan Hos	1	1	0
Amh	W/Gojjam	Mecha	2	3	0
Amh	W/Gojjam	Y/Densa	2	3	0
Amh	W/Gojjam	F/Selam Hos	1	1	0
Amh	W/Gojjam	S/Achefer	1	1	0
Oro	Arsi	L/Bilbilo	3	4	0
Oro	Q/Wellega	D/Dollo	2	3	0
Oro	Shashamane	Shashamane	1	1	0
Oro	W/Hararge	H/Gudina	3	4	0
SNNP	Sidama	Yiregalem Hos	1	1	0
Tig	C/Tigray	Akisum T	2	3	0
Tig	C/Tigray	Adwa T	1	1	0
Tig	Mekele	Mekele	8	11	0
Tig	N/W/Tigray	S/E/Silase T	21	29	0
Total			71	99	0

### 4) Meningitis

In week 20 of 2016, a total of 20 suspected meningitis cases are reported to the national level through weekly routine surveillance. Majority of the cases reported from

Hospitals. Up on disaggregating the hospital cases to woreda level, the cases were reported from different woredas (table 6). The Meningitis threshold was not crossed in all reported woredas .

Table 6: Suspected Meningitis Cases in week 20, 2016

Region	Zone	Woreda	Total	OP	IP	Death
Amh	N/Shewa	D/Brehan Hos	2	2	0	0
Amh	Oromiya	Kemise T	2	1	1	0
Gam	Agnuwak	Gambella Hos	1	0	1	1
Oro	Bale	Goba T	1	0	1	0
Oro	Bale	Robe T	1	0	1	0
Oro	Borena	B/Hora T	2	2	0	0
Oro	E/Hararge	G/muleta Hos	1	1	0	0
Oro	W/Hararge	Anchar	1	1	0	0
SNNP	Gedeo	Dila Hos	3	0	3	0
SNNP	Hawassa T	Hawassa Hos	3	0	3	0
SNNP	Wolayita	Sodo Cr. Hos	1	0	1	0
SNNP	Wolayita	Sodo Hos	1	0	1	0
Som	Degehabur	Dagahbur Hos	1	0	1	0
Total			20	7	13	1

### 5) Measles

**National measles trend:** The national trend of reported measles cases is below the reports received in 2015 and 2014 of the same time. The number of cases reported has steadily declined since week 12 which is a similar pattern to 2015 and 2014 reports (Table 7).

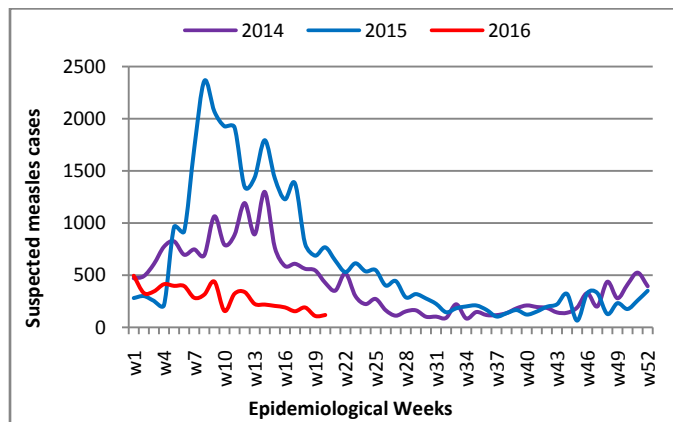


Figure 9: National suspected Measles Trend ,2014-2016

Table 7: Suspected Measles cases, week 20, 2016

Region	Cases	Percent	Death
Oromia	92	77.3	0
Amhara	12	10.1	0
Addis Ababa	10	8.4	0
BG	2	1.7	0
SNNPR	2	1.7	0
Somali	1	0.8	0

## Weekly Epidemiological Bulletin

Dire Dawa	0	0.0	0
Gambella	0	0.0	0
Harari	0	0.0	0
Tigray	0	0.0	0
<b>Grand Total</b>	<b>119</b>	<b>100.0</b>	<b>0</b>

**Woreda Measles trend:** Up on disaggregating suspected measles cases to woreda level, 22 woredas reported five and more suspected cases in the last one month (Week 16-20 of 2016). This shows the woredas are in measles outbreak as per our technical guideline. The suspected measles cases reported from woredas in the outbreak contributed 46 % of the national cases reported in week 20 (Table 8).

Table 8: Suspected measles cases from Wk 16-20/2016

Region	Zone	Woreda	17	18	19	20	Total
Amh	Gonder T	Gonder T	1	1	6	2	10
Amh	N/Gondar	E/Belesa	0	12	6	0	18
Amh	N/Gondar	Qaura	0	0	5	0	5
Amh	N/Shewa	M/Wedera	0	5	0	0	5
Amh	W/Gojjam	Bahirdat Z	5	3	0	2	10
Amh	W/Gojjam	N/Achefer	2	5	2	2	11
Harari	Harari	Jenella	4	1	1	0	6
Oro	Arsi	Guna	2	5	9	1	17
Oro	Arsi	Merti	6		0	0	6
Oro	E/Hararge	Babile	4	1	0	2	7
Oro	Guji	H/Wamena	0	0	0	13	13
Oro	Guji	Uruga	1	3	1	3	8
Oro	Jimma	Agaro	0	2	4	0	6
Oro	Jimma	Limu Seka	4	11	0	6	21
Oro	Jimma	Sigmo	0	8	2	0	10
Oro	JimmaT	Jimma T	0	2	2	3	7
Oro	N/Shewa	Dera	0	46	0	13	59
Oro	Q/Wellega	D/Dollo	6	3	2	0	11
Oro	S/W/Shewa	Ameya	7	1	0	0	8
Oro	S/W/Shewa	Woliso R	16	2	0	0	18
Oro	W/Shewa	Ambo	0	0	3	2	5
Som	Afder	Jarati			5	0	5
Sub-total			58	111	48	49	266
Total cases per week			155	191	110	119	575
Percent			37	58	44	41	46

### 6) Anthrax

In week 20, a total of 13 suspected Anthrax cases with zero death reported from Amhara and Tigray regions (Figure 9).

Table 9: Suspected Anthrax cases reported in Week 20, 2016)

Region	Zone	Woreda	Cases	Deaths
Amh	Waghimra	Zikwala	4	0
Amh	N/Gondar	Tselemet	2	0
Amh	S/Gonder	Ebinat	2	0
Amh	S/Gonder	Debark Zuria	1	0
Amh	S/Gonder	Gondar Zuriya	1	0

Amh	Waghimra	Sehale Seyemt	1	0
Amh	Waghimra	Sekota	1	0
Tig	N/Western T	Asegede Tsimbila	1	0
<b>Grand Total</b>			<b>13</b>	<b>0</b>

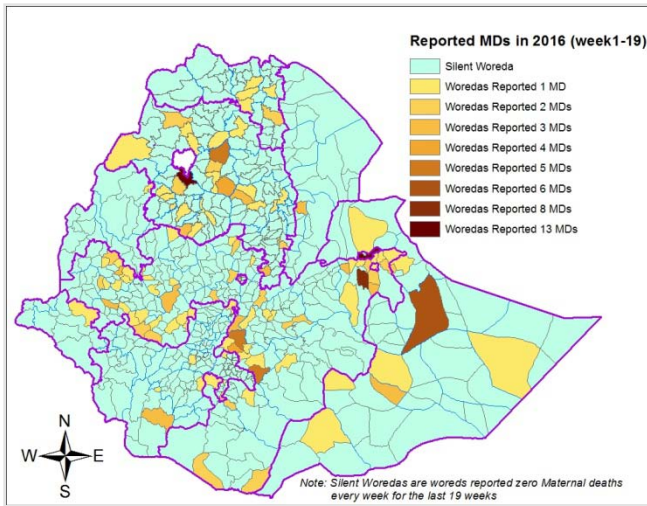
### 7) Maternal Death

Since maternal death is integrated in PHEM surveillance system a number of deaths were reported to national level both through weekly report and MDRF. This week a total of 18 maternal deaths were reported to national level through routine surveillance from Oromia, Amhara and Benishangul Gumuz regions. The other regions reported zero maternal death in the week (Table 10).

Table 10: Maternal Deaths report by Woreda, Week 20, 2016)

Region	Zone	Woreda	Deaths
Dire Dawa	Dredewa	Dilchora Hos	3
Addis Ababa	Chirkos	Zeweditu Hos	2
Oromia	Arsi	Amigna	2
Addis Ababa	Arada	Arada	1
Amhara	Awi	G/Shekudad	1
Amhara	Gonder Town	Gonder T	1
Oromia	East Hararge	Girawa	1
Oromia	East Hararge	Gursum	1
Oromia	Guji	Saba Boru	1
Oromia	Jimma	Shebe Senbo	1
Oromia	Jimma	Sigmo	1
Oromia	Sebeta Town	Sebeta T	1
SNNPR	South Omo	Bena Tsemay	1
SNNPR	South Omo	Jinka Hos	1
<b>Grand Total</b>			<b>18</b>

In 2016, Week 1-20, a total of 263 maternal deaths were notified through weekly surveillance system. All regions reported at least one maternal death within the last 20 weeks. Oromia region reported the highest deaths (121 Deaths) comparing with other regions. All woredas are started reporting maternal deaths (at least zero report). Majority of the woredas kept reporting zero maternal death which needs further evaluation (Map 1).



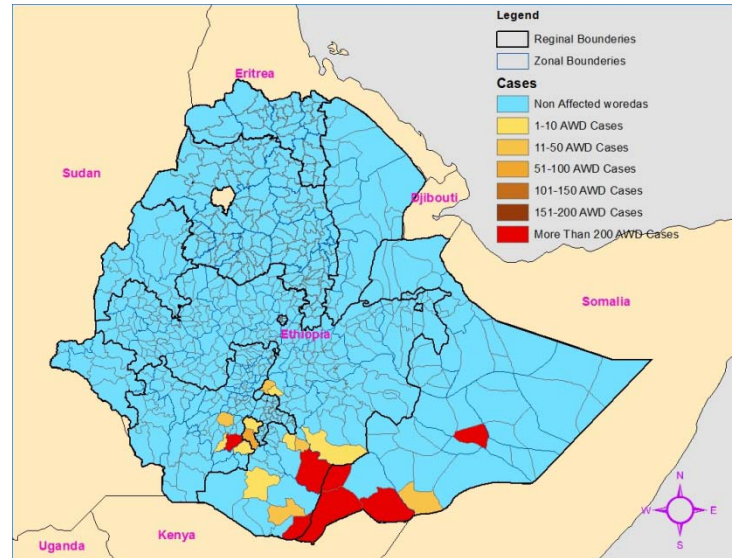
Map 1: AWD Affected Woredas, 27 May 2016

### 8) Suspected AWD Cases:

The Moyale AWD outbreak is further expanding to other woredas. So far, 20 woredas were reported suspected AWD cases in three regions (Oromia, Somali and SNNP regions) (Map 2). Nationally as of 14 May 2016, about 2178 suspected AWD cases with 206 confirmed cases were reported from 23 woredas in three regions (table 11).

Table 11: AWD cases by Woreda, Week 20, 2016

Region	Zone	Woreda	First case	T. Cases	Confirmed
Oro	Borena	Muyale	20/6/2020	286	53
Oro	Borena	Gelana	3/3/2016	53	5
Oro	Borena	Dehas	3/20/16	20	0
Oro	Borena	Yaebello	1/22/2016	6	0
Oro	Borena	Abeya	3/31/2016	1	0
Oro	Guji	A/Rede	4/22/2016	1	0
Oro	Guji	Goro Dola	4/6/2016	15	0
Oro	Guji	Liban	3/23/2016	105	14
Oro	Bale	M/wolabu	5/12/2016	9	0
Oro	Guji	Negele T	3/27/2016	111	10
Oro	Guji	Seba Boru	4/28/2016	4	0
Oro	Guji	Wadera	4/14/2016	33	1
Oro	W/Arsi	Shashemene	4/1/2016	5	3
Oro	W/Arsi	Shalla	4/22/2016	16	2
Som	Liben	Muyale	20/21/2020	298	84
Som	Liben	Hudet	2/23/2016	276	20
Som	Liben	Dolo Ado	5/2/2016	229	8
Som	Afder	Dolobay	5/13/2016	34	0
Som	Afder	Qarsadula	NA	24	0
Som	Afder	Deka suftu	NA	21	0
Som	Shabelle	Godet T	NA	224	0
SNNP	G/Gofa	A/minch T	3/5/2016	303	4
SNNP	G/Gofa	A/minch R	3/5/2016	65	1
SNNP	G/Gofa	Bonke	3/20/2016	3	0
SNNP	G/Gofa	Kucha	3/22/2016	28	0
SNNP	Amaro	Amaro	3/16/2016	9	2
Total				2178	206



Map 2: AWD Affected Woredas, 27 May 2016

### 9) Influenza Sentinel Surveillance

In week 20 of 2016, a total of 13 samples were collected from patients with Influenza like illness or SARI at predesignated influenza sentinel sites. Among them 5 were tested positive for Influenza B, one was positive for pandemic influenza A (H1N1) and one was positive for H1N1 Pandemic influenza. Relatively comparing with previous weeks the positivity rate for pandemic influenza H1N1 is decreasing (Figure 11).

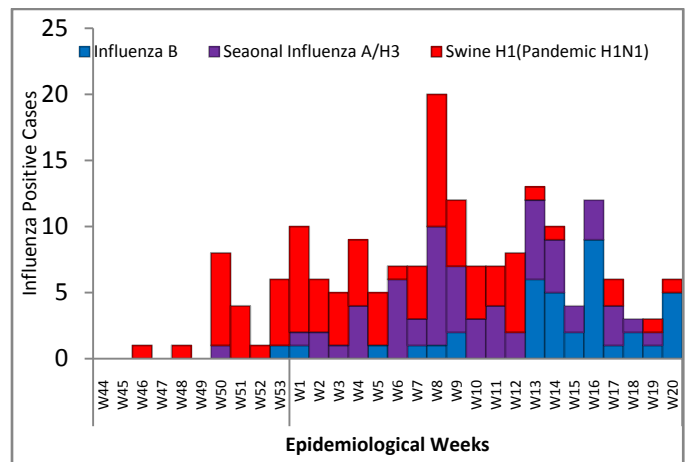


Figure 11: Influenza cases by subtype, Sentinel Surveillance, 2015-2016

### 10) Suspected Yellow fever:

Fourteen serum samples from South Ari Wereda and 5 serum samples from Benetsemay Wereda, a total of 19 serum samples from acute case. Samples were tested for yellow fever IgM antibody by ELISA and all were negative. The appropriate test for acute phase samples is RT PCR, but this test is not available currently at EPHI. To be able to detect any available antibody in patients, convalescent serum was

# Weekly Epidemiological Bulletin

---

collected from the same patient and tested for yellow fever, Dengue and West Nile by ELISA; one sample was positive for yellow fever IgM (Sample from unvaccinated patient). This is a probable YF as there is cross reactivity among flaviviruses. For further investigation all serum samples are on process to be sent to IP Dakar reference laboratory.

## IV. Response

### AWD Outbreak:

- a. Three additional teams sent to Mada Walabu, Dollo Ado and Dolobay woredas to investigate and respond to AWD outbreaks
- b. Lifesaving drugs, medical supplies and CTC kits are continuously refilled
- c. Patient isolation and treatment in designated CTC (Case Treatment Center), Contact tracing, infection

prevention, health education and social mobilization activities, distributing of water treatment chemicals at household level, treatment of water at the source and detail case investigation is undertaken in all AWD affected woredas.

- d. Latrine construction is massively undertaken by community through the cross follow up and inspection of woreda and kebele cabinets.
- e. Daily activities are being evaluated by zonal and woreda emergency preparedness and response committees

**Suspected Yellow fever:** A team deployed to suspected Yellow fever affected area is continuing investigation and searching for new cases in the community.