



This update describes the development, status, and response activities implemented by the humanitarian community of the Acute Watery Diarrhoea outbreak in Somalia. The update follows the structure as proposed in the WHO guidelines for cholera outbreak response.

15 April 2007

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1 Epidemiological week N° 14 overall results and outcome

Between 1 January and 7 April 2007, a total of 16 579 cases of clinically diagnosed AWD including 593 related deaths (CFR 3.58) were reported from Central and South Somalia. Cases were reported from 10 regions (Hiiraan, Banadir, Lower and Middle Shabelle, Bay, Gedo, Bakool, Galgudud and Lower Juba and Middle Juba) with an estimated population of 4,038,513; the overall attack rate (AR) is 0.41%.

The trend shows an increase in the number of reported cases compared with the previous epidemiological weeks. In the current week (epidemiological week 14) cases increased by 11%, in comparison with the previous week (3223 and 2766 respectively). The distribution of AWD cases is shown in figure 1.

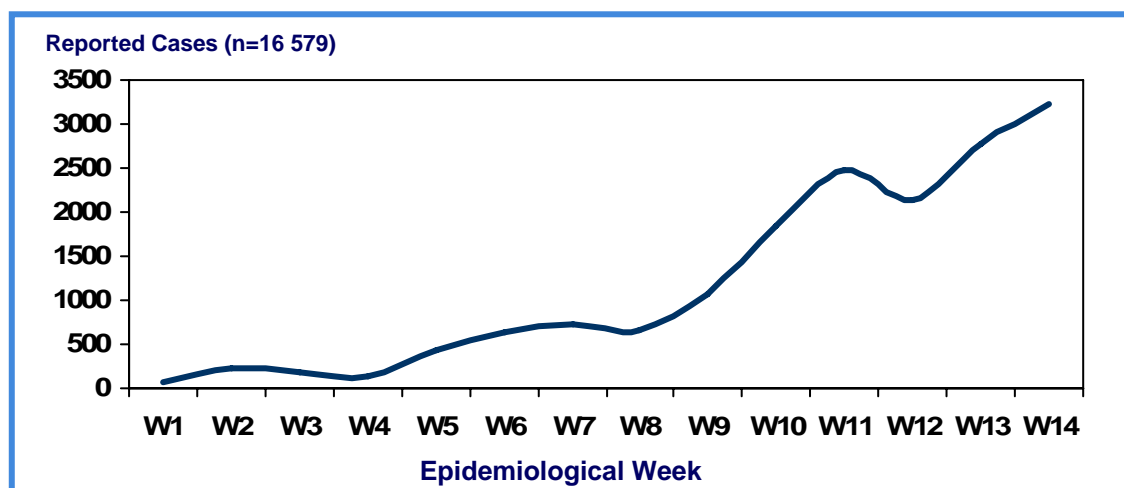


Figure 1: Distribution of AWD cases, Central and South Somalia, 01 January -7 April 2007

The first report of an increase in AWD cases was received from **Hiiraan region** (Not included in the graph) in the first epidemiological week of 2007. After reaching the peak in week 7, cases started to decrease to date.

In the epidemiological week 5, **Middle Shabelle region** (Not included in the graph) reported a similar increase in AWD cases. The number AWD cases reached the peak in epidemiological weeks 6 and 7 and decreased the last few weeks.

In the beginning of epidemiological week 6, an increase of AWD cases were reported from **Lower Shabelle** region. The peak was reached in the epidemiological week 10, but a slight decrease was observed in the epidemiologic weeks 11 and 12 with another increase in the epidemiological week 13, then the cases showed a slight decrease in the current week (epidemiological week 14) compared with the previous week (750 and 636 respectively).

Banadir region started reporting cases from week 8. The trend is showing a continuous increase up to week 13. A slight decline was observed compared to the previous week (1036 and 1244 respectively) mainly due to the decreased number of the reporting health facilities.

Bay region started to report cases in epidemiological week 9, and are showing a marked increase in the trend (5 cases were reported in week 9 compared to 495 cases in the current week).

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Bakool region (not included in the graph) started to report cases in epidemiological week 12 with increase number of reported cases up to the current week.

In the current week, **Middle Juba** region reported 927 cases including 59 related deaths (CFR 6.36%).

The distribution of AWD cases by region is shown in figure 2.

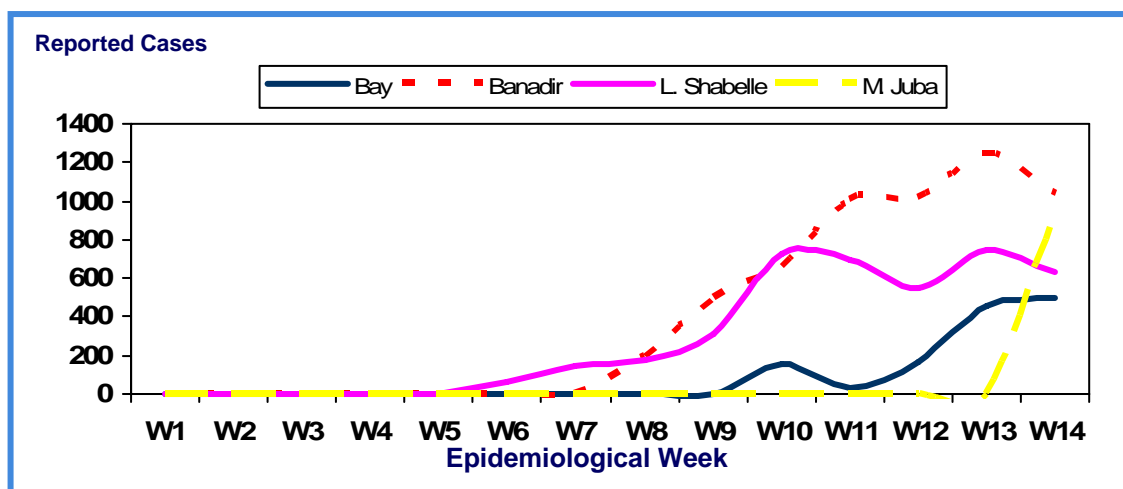


Figure 2: Distribution of AWD cases by region, Central and South Somalia, 1 January -7 April 2007

Overall, the highest attack rate (AR) observed in **Banadir** region with **0.63%** and **Lower Shabelle (0.51%)**, followed by and Middle Shabelle and Hiiraan regions (**0.57%** and **0.49%** respectively). The attack rate per 100 population is shown in figure 3.

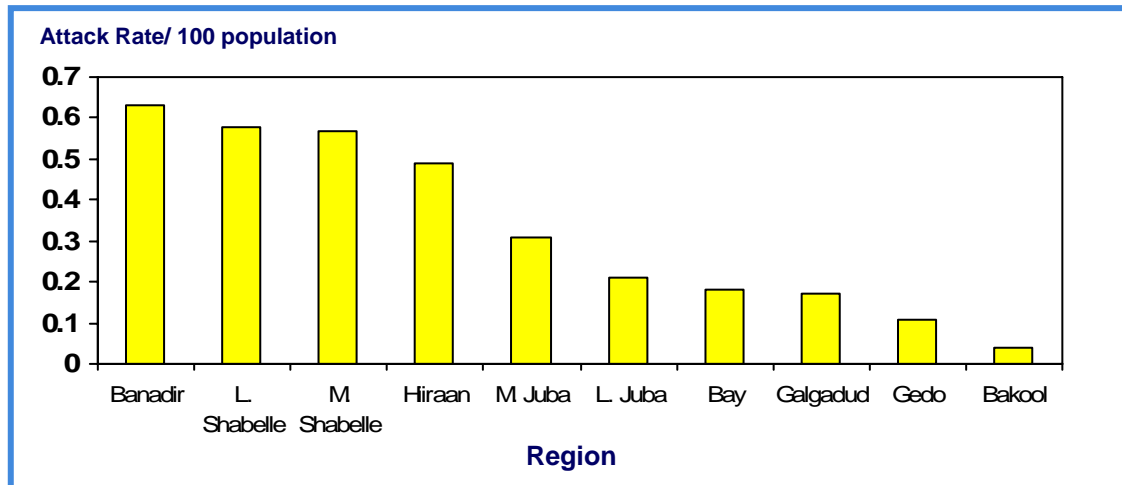


Figure 3: Distribution of AWD cases, deaths and CFR by region, Central and South Somalia, 1 January - 7 April 2007

During the same reporting period, **34%** (5664/16,597) of AWD cases were reported from **Banadir** (CFR 1.62%), 24% (4039) from Lower Shabelle (CFR 5.15%), 8% (1371) from Hiiraan (CFR 2.92%), 8% (1246) from Middle Shabelle (1.69%), 8% from Bay (1312) (CFR 5.26) followed by Lower Juba (CFR 6.58%), and Gedo (CFR 5.00%). Although Bakool region reported 1% (102), the CFR was the highest (8.86%). The distribution of AWD cases, deaths, and CFR by region is shown in figure 4.

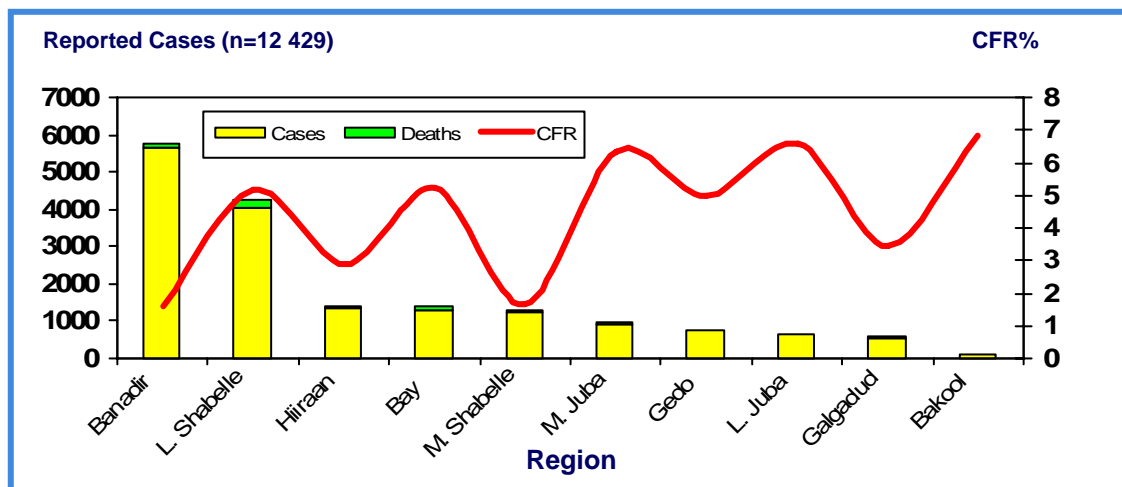


Figure 4: Distribution of AWD cases, deaths and CFR by region, Central and South Somalia, 1 January - 7 April 2007

In the following tables (1-2), an overview of number of the reported cases, deaths, attack rate (AR), and Case Fatality Rate (CFR) of the current Acute Watery Diarrhoea outbreak in Somalia is given per district.

Table 1: Number of reported Acute Watery Diarrhoea cases, deaths and Case Fatality Rate per region, Central and South Somalia

Central and South Region, 1 January – 7 April 2007, Somalia															
Week	Hiiraan*			Banadir**			Lower Shabelle			Middle Shabelle			Bay***		
	C	D	CFR%	C	D	CFR%	C	D	CFR%	C	D	CFR%	C	D	CFR%
1	69	6	8.70	0	0	0.00	0	0	0.00	0	0	0.00	0	0	0.00
2	223	7	3.14	0	0	0.00	0	0	0.00	0	0	0.00	0	0	0.00
3	184	6	3.26	0	0	0.00	0	0	0.00	6	0	0.00	0	0	0.00
4	129	8	6.20	0	0	0.00	0	0	0.00	8	1	12.50	0	0	0.00
5	235	6	2.55	0	0	0.00	0	0	0.00	142	2	1.41	0	0	0.00
6	162	4	2.47	0	0	0.00	59	5	8.47	337	6	1.78	0	0	0.00
7	255	3	1.18	0	0	0.00	147	18	12.24	240	3	1.25	0	0	0.00
8	37	0	0.00	196	2	1.02	172	15	8.72	147	5	3.40	0	0	0.00
9	21	0	0.00	502	10	1.99	309	18	5.83	94	1	1.06	5	2	40.00
10	10	0	0.00	659	12	1.82	723	69	9.54	54	0	0.00	159	14	8.81
11	11	0	0.00	1006	16	1.59	691	33	4.78	53	2	3.77	36	1	2.78
12	35	0	0.00	1021	14	1.37	552	13	2.36	112	0	0.00	164	3	1.83
13	NA	NA	NA	1244	17	1.37	750	22	2.93	53	1	1.89	453	26	5.74
14	NA	NA	NA	1036	21	2.03	636	15	2.36	NA	NA	NA	495	23	4.65
TOT	1371	40	2.92	5664	92	1.62	4039	208	5.15	1246	21	1.69	1312	69	5.26

* **Hiiraan:** date in weeks 10-12 is only from Beletweyne, data was missing from Jalalaqsi and Buloburte

** **Banadir:** data in the week 14 is only from 2 hospitals (Banadir and Habib) and 1 CTC (Forlanini-MSF-S).

*** **Bay:** One week after the Cholera Treatment Centre in Baidoa was opened, the CFR dropped from 8.81% to 2.44%

Central and South Region, 1 January – 7 April 2007, Somalia																		
Week	Bakool			Gedo			Galgadud			Middle Juba			Lower Juba			GRAND TOTAL		
	C	D	CFR	C	D	CFR	C	D	CFR	C	D	CFR	C	D	CFR	C	D	CFR
1	0	0	0.00	0	0	0.00	0	0	0.00	0	0	0.00	0	0	0.00	69	6	8.70
2	0	0	0.00	0	0	0.00	0	0	0.00	0	0	0.00	0	0	0.00	223	7	3.14
3	0	0	0.00	0	0	0.00	0	0	0.00	0	0	0.00	0	0	0.00	190	6	3.16
4	0	0	0.00	0	0	0.00	0	0	0.00	0	0	0.00	0	0	0.00	137	9	6.57
5	0	0	0.00	0	0	0.00	0	0	0.00	0	0	0.00	57	15	26.32	434	23	5.30
6	0	0	0.00	0	0	0.00	0	0	0.00	0	0	0.00	70	5	7.14	628	20	3.18
7	0	0	0.00	0	0	0.00	0	0	0.00	0	0	0.00	82	5	6.10	724	29	4.01
8	0	0	0.00	0	0	0.00	0	0	0.00	0	0	0.00	102	5	4.90	654	27	4.13
9	0	0	0.00	11	0	0.00	0	0	0.00	0	0	0.00	124	8	6.45	1066	39	3.66
10	0	0	0.00	172	13	7.56	3	0	0.00	0	0	0.00	71	1	1.41	1851	109	5.89
11	0	0	0.00	387	14	3.62	245	10	4.08	0	0	0.00	55	2	3.64	2484	78	3.14
12	22	0	0.00	115	4	3.48	109	4	3.67	0	0	0.00	NA	NA	NA	2130	38	1.78
13	38	3	5.00	30	3	10.00	198	5	2.53	0	0	0.00	NA	NA	NA	2766	77	2.78
14	42	4	9.52	25	3	12.00	NA	NA	NA	927	59	6.36	62	0	0.00	3223	125	3.88
TOT	102	7	6.86	740	37	5.00	555	19	3.42	927	59	6.36	623	41	6.58	16579	593	3.58

Table 2: Distribution of reported Acute Watery Diarrhoea cases and deaths by district

Region	District	Estimated Population	Cases	AR per 100	Deaths	CFR%	Comments
Hiiraan	Bulo Burte	89,120	355	0.40	26	7.32	Data up to 31 March, 2007 No data form Bulo Burte and Jalaalqsi
	Jalaalqsi	46,724	795	1.70	6	0.75	
	Beletweyne	144,345	221	1.15	8	3.62	
TOTAL		280,189	1371	0.49	40	2.92	
Lower Shabelle	Merka	192,939	1674	0.87	70	4.18	
	Afgoye	135,012	717	0.53	38	5.30	
	Qoryoley	134,205	467	0.35	48	10.28	
	K/Warey	55,445	639	1.15	22	3.44	
	Sablale	43,055	90	0.21	7	7.78	
	Brave	57,652	288	0.50	7	2.43	
	Awdegle	76,700	164	0.21	16	9.76	
TOTAL		695,008	4039	0.58	208	5.15	
Lower Juba	Kismayo	166,667	572	0.34	28	4.89	Lab. confirmation (10) <i>V. Cholera</i> Ogawa
	Jamame	129,149	51	0.04	13	25.49	
TOTAL		295,816	623	0.21	41	6.58	
Middle Juba		238,877	927	0.31	59	6.36	
TOTAL		238,877	927	0.31	59	6.36	
Banadir	Mogadishu	901,183	5664	0.63	92	1.62	Lab. confirmation (24) <i>V. Cholera</i> Inaba
TOTAL		901,183	5664	0.63	92	1.62	
Middle Shabelle	Jowhar	218,027	1246	0.57	21	1.69	All samples negative for <i>V. Cholera</i> .
TOTAL		218,027	1246	0.57	21	1.69	
Gedo	Bardera	106,172	740	0.70	37	5.00	Lab. confirmation (3) <i>V. Cholera</i> Inaba
TOTAL		106,172	740	0.70	37	5.00	
Bay	Baidoa	726,849	1312	0.18	69	5.26	
TOTAL		726,849	1312	0.18	69	5.26	
Galgudud	Galaheri	330,057	555	0.17	19	3.42	
TOTAL		330,057	555	0.17	19	3.42	
Bakool	Wajid	246,335	102	0.04	7	6.86	
TOTAL		246,335	102	0.04	7	6.86	
GRAND TOTAL		4,038,513	16,597	0.41	593	3.58	

2 Laboratory confirmation / drug resistance

Three out of 10 stool samples collected from **Merka district**, Lower Shabelle on 10 March 2007, were confirmed with *V. cholerae*, serogroup O1, serotype *Inaba*, and two samples with *V. cholerae*, serogroup O1, serotype *Hikojima*¹. WHO requested the African Medical and Research Foundation (AMREF) laboratory in Nairobi to confirm the results. The mean age of confirmed cases was 5.0 years, ranging from 2-20 years. 60% (3/5) were males. The *Vibrio* was resistant to Chloramphenicol, and Cotrimoxazole, while sensitive to Erythromycin and Tetracycline.

On 13 March 2007, 10 stool samples were collected by MSF-Spain from **Banadir hospital**. All 10 samples were confirmed with *V. cholerae*, serogroup O1, serotype *Inaba*. The mean age of confirmed cases was 11.02 years ranging from 10 months-35 years. 70% (7/10) were male.

On 14 March 2007, 12 stool samples were collected by MSF-Spain from **Hayat hospital**. Five samples were confirmed with *V. cholerae*, serogroup O1, serotype *Inaba*. The mean age of confirmed cases was 8.70 years ranging from 2-40 years. 60% (3/5) were male.

In both cases, the *Vibrio* was resistant to Chloramphenicol, and Cotrimoxazole, while sensitive to Tetracycline.

On 05 April 2007, 4 stool samples were collected from **Gedo Region**. Three (**3**) samples were confirmed with *V. cholerae*, serogroup O1, serotype *Inaba* in AMREF Laboratory in Nairobi. The mean age of confirmed cases was 4.70 years ranging from 18 months-16 years.

3 Outbreak control task force

Outbreaks Control Task Force meetings are conducted on a monthly / fortnightly basis at the Somalia Support Secretariat.

Due to a very high Case Fatality Rate (CFR) in Baidoa and Wajid (7.78% and 5.00% respectively) WHO conducted an investigation mission between 28 March and 3 April 2007.

Severe shortages in the treatment and care of AWD patients as well as in the chlorination of drinking water and proper hygiene and sanitation measures were observed in both Baidoa and Wajid. In addition, there was no evidence of health promotion and education messages related to the prevention of AWD.

A total of 60 health workers from the Cholera Treatment Centres (CTC) in Baidoa and Wajid were **trained on case management for AWD**. The health workers came from Ministry of Health and NGOs such as IMG, WAWDO, DMO, Caritas, Green Hope, Somali Red Crescent Society (SRCS), and World Vision. WHO recommended guidelines for cholera case management were distributed to the participants.



The **Somali Ministry of Health and WHO** in close collaboration with **UNICEF, OCHA and NGOs** conducted a **cleaning campaign of Baidoa hospital** on 1 April. A total of 100 people were mobilized. WHO sponsored the initiative. **WHO is paying incentives for the 21 health staff in the CTC Baidoa**. Three persons are in charge of cleaning the hospital on a daily basis. WHO is also recruiting an additional medical doctor to work in the CTC. WHO is paying for 2 people to chlorinate the water bladder on a regular basis.

¹ The organism responsible for causing cholera is *Vibrio cholerae* serogroup O1 of which there are 2 biotypes, Classical and El Tor. The biotypes are further split into serotypes *Inaba*, *Ogawa* and (rarely) *Hikojima*. If *Hikojima* serotype is confirmed, all 3 serotypes of *Vibrio cholerae* are present during the ongoing outbreak.

WHO also ensured that the **water provided by the main water supply treatment centre in Baidoa was chlorinated**. WHO environmental engineer arrived to Wajid on 1 April to provide technical support and **on the job training on water quality and chlorination**. WHO supplied the WFP compound in Wajid with chlorine to ensure safe drinking water for the UN staff.

WHO also provided 100 bottles of erythromycin 250 mg syrup, the drug of choice for treatment of cholera cases for children of less than 5 years of age. WHO will be providing IV fluids, antibiotics and ORS to the CTC in Wajid, as requested.

WHO requested WFP to provide a daily food package to patients, co-patients, and health workers of the CTC Wajid.



A **rumour investigation mission** to Safarnoye village was conducted into reports about an increase in the number of AWD cases including multiple deaths. The health post officer confirmed 7 AWD cases including one death. The WHO team provided ORS to 2 AWD patients in the village. Both cases showed immediate improvement and did not need to be transferred to the CTC Wajid. Health education messages on hygiene and sanitation as well as chlorination of the drinking water were distributed among the entire village.

UNICEF will be distributing chlorine tablets at household level in places where water is not chlorinated from the source. The distribution will be combined with hygiene promotion activities to ensure appropriate usage. WHO and UNICEF will be procuring pool testers and rapid water testing kits

ACF continues its chlorination of the 326 wells in Mogadishu.

MANHAL and **AFRICAN RELIEF FUND** assessed the diarrhoea situation in Adale, Addan-Lixley, Run-nirgod, Elba'ad and Labada Geed-Hareri in Middle Shabelle region. Reports of over 500 cases and 200 deaths in Elba'ad alone. The NGOs distributed 2500 ORS sachets, 912 litres of Ringer lactate, IV catheters, antibiotics, chlorine, tents and other supplies.

WAMY opened a temporary CTC in Hawa-Abdi area and is running a mobile team for diarrhoea cases in Lafole area. The NGO will be repairing the water tank of Hawa-Abdi well and has initiated social mobilization through Banadir and IQK radios with the help of Habeb hospital.

On 5 April 2007, a WHO shipment of 500 cartons Ringer Lactate, and 141 cartons Diarrhoea Disease Kits, arrived to Berbera airport; part of shipment was immediately sent by air to Mogadishu while the remaining will be shipped to other areas in need.



The **Somalia Red Crescent Society (SRCS)**, with the support of **International Committee of the Red Cross (ICRC)** has opened 4 ORT centres in Mogadishu. The NGOs **MSF Spain** and **ACF** have also opened CTCs in Mogadishu.

ICRC supplied 10,000 ORS sachets to Mogadishu and donated 80MT of supplies to Banadir hospital; WHO supplied 500 litres of ringer lactate to Banadir Hospital.