



31 March 2007

Table of contents

1	Summary of previous updates	1
2	Overall results and outcome.....	1
	Table 1: Number of cases, deaths and CFR	4
	Table 2: Distribution of reported cases and deaths...	6
3	Laboratory confirmation / drug resistance	7
4	Outbreak control task force	7



1 Summary of previous updates

An extensive outbreak of **Acute Watery Diarrhoea (AWD)** has been affecting Central and South Somalia as a result of consecutive droughts, floods, and armed conflict. The first report of an increase in AWD cases was received from **Hiiraan** region in the first epidemiological week of 2007. In the beginning of epidemiological week 5, **Middle Shabelle and Lower Juba** regions reported a similar increase in AWD cases. In Lower Juba, the number of cases markedly decreased in week 9. In **Lower Shabelle**, cases were reported from week 6 with noticeable increase in epidemiological week 10, while a slight decrease was observed in epidemiologic week 11 (723 and 691 respectively). **Banadir** region reported cases from week 8 and showed 23% increase compared to the previous week (2336 and 1009 respectively). **Bay and Galgudud** regions started to report cases in epidemiological week 11.

As of 17 March 2007, the number of clinically diagnosed **AWD cases** was **7976**, including **341** related deaths (**CFR 4.28**) reported from 8 regions with an estimated population of 3,553,301; the overall attack rate (**AR**) was **0.22%**. The trend showed an increase by 15% with the previous week (2391 cases to 1507 respectively).

This update describes the development, status, and response activities implemented by the humanitarian community of the latest AWD outbreak in Somalia. The update follows the structure as proposed in the WHO guidelines for cholera outbreak response¹.

2 Epidemiological week N° 13 overall results and outcome

Between 1 January and 31 March 2007, a total of **12 429** cases of clinically diagnosed **AWD** including **414** related deaths (**CFR 3.33**) were reported from Central and South Somalia. Cases were reported from 9 regions (Hiiraan, Banadir, Lower and Middle Shabelle, Bay, Gedo, Bakool, Galgudud and Lower Juba) with an estimated population of 3,799,636; the overall attack rate (**AR**) is **0.33%**.

¹ Urgent WHO Interregional Meeting on Cholera, Horn of Africa, Nairobi, 18-19 December 1997. WHO Emerging and other Communicable Diseases, Surveillance and Control. <http://www.who.int/emc>

The trend shows an increase in the number of reported cases compared with the previous epidemiological weeks. In the current week (epidemiological week 13) cases increased by 13%, in comparison with the previous week (1977 and 2462 respectively).

The distribution of AWD cases is shown in figure 1.

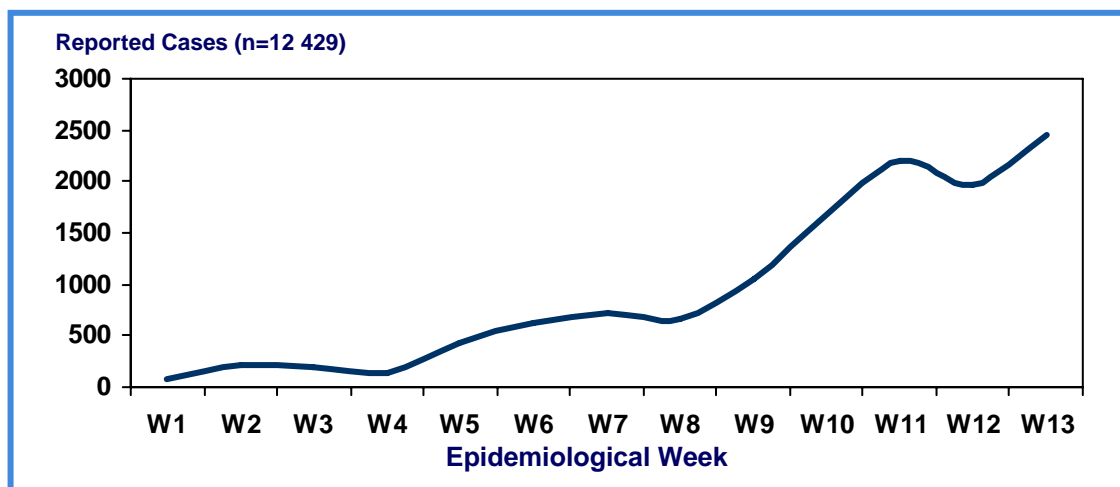


Figure 1: Distribution of AWD cases, Central and South Somalia, 01 January -31 March 2007

After reaching the peak of AWD cases from **Hiiraan** region in week 7, cases started to decrease until the end of week 9 up to today. In the beginning of epidemiological week 5, **Middle Shabelle** reported a similar increase in AWD cases. The number of cases in Middle Shabelle reached the peak in epidemiological weeks 6 and 7. In **Lower Shabelle** region, cases were reported in week 6 with marked increase in the epidemiological week 10, but a slight decrease was observed in the epidemiologic weeks 11 and 12 with showed another increase in the current week (522 and 750 respectively). **Banadir** region reported cases starting form week 8 and the trend is showing continuous increase up to the current week, 12% increase compared to the previous week (1244 and 1021 respectively). **Bay and Galgudud** regions (not included in the graph) started to report cases in epidemiological week 11, and are showing an increase in the trend. **Bakool** region (not included in the graph) started to report cases in epidemiological week 12.

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

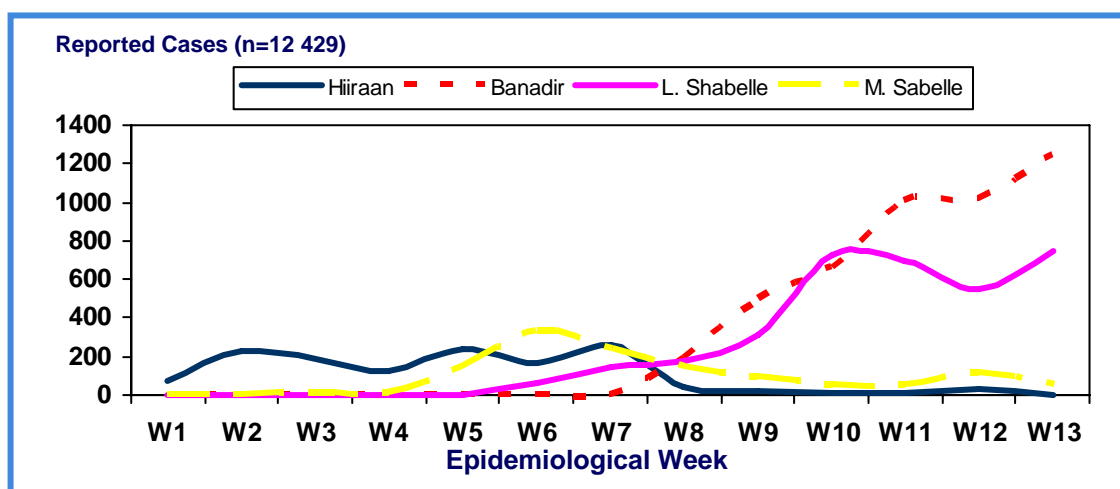


Figure 2: Distribution of AWD cases by region, Central and South Somalia, 1 January -31 March 2007

Overall, the highest attack rate (AR) was observed in Middle Shabelle region with **0.57%** and Banadir with **0.51%**, followed by Lower Shabelle and Hiiraan regions with each **0.49%**.

The attack rate is shown in figure 3

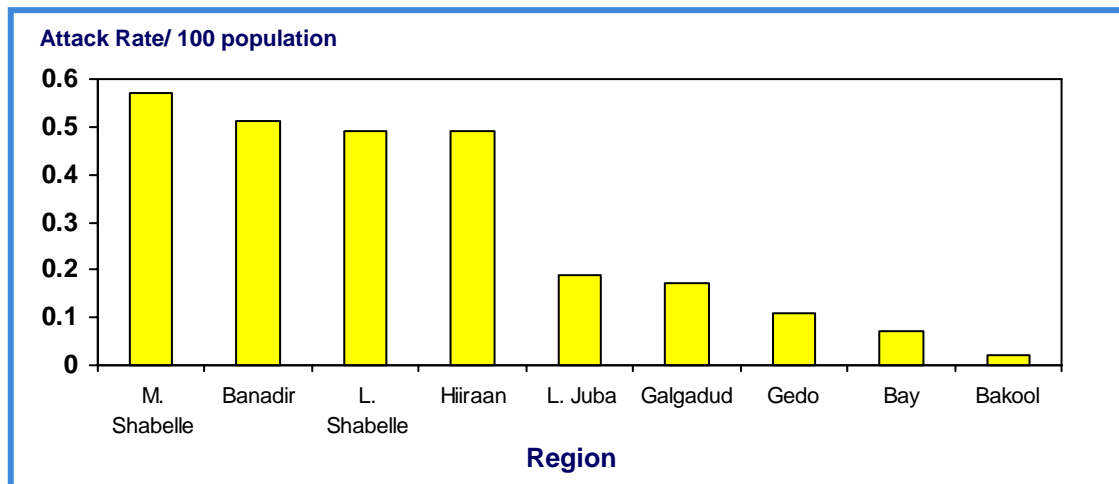


Figure 3: Distribution of AWD cases, deaths and CFR by region, Central and South Somalia, 1 January - 31 March 2007

During the same reporting period, **37%** (4628/14,429) of **AWD cases** were reported from **Banadir** (CFR 1.53%), 27% (3403) from Lower Shabelle (CFR 5.67%), 11% (1371) from Hiiraan (CFR 2.92%), 10% (1246) from Middle Shabelle (1.69%), followed by 5% (561) from Lower Juba (CFR 7.31%), followed by Galgadud and Bay regions with 4% each. Although Gedo reported 1% (112), the CFR was the highest (8.04%).

The distribution of AWD cases, deaths, and CFR by region is shown in figure 4.

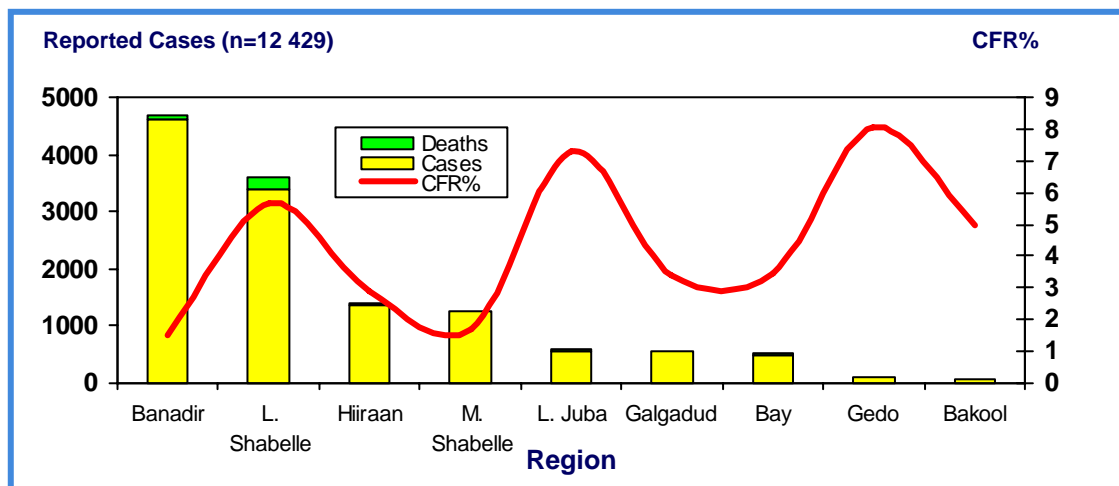


Figure 4: Distribution of AWD cases, deaths and CFR by region, Central and South Somalia, 1 January - 31 March 2007

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, Somalia															
Week	Hiiraan*			Banadir**			Lower Shabelle			Middle Shabelle***			Bay****		
	Cases	Deaths	CFR%	Cases	Deaths	CFR%	Cases	Deaths	CFR%	Cases	Deaths	CFR%	Cases	Deaths	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	0	0	0.00
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	29	1	3.45
12	35	0	0.00	1021	14	1.37	552	13	2.36	112	0	0.00	126	2	1.59
13	NA	NA	NA	1244	17	1.37	750	22	2.93	53	1	1.89	179	0	0.00
TOT	1371	40	2.92	4628	71	1.53	3403	193	5.67	1246	21	1.69	493	17	3.45

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

** **Banadir:** data in the week 13 is only from 2 reporting hospitals, Banadir and Habib

*** **Middle Shabelle:** Data is up to 28 March 2007, a rumour of 500 cases including 95 deaths is currently being investigated

**** **Bay:** One week after the Cholera Treatment Centre in Baidoa was opened, the CFR dropped from 8.81% to 1.59%

Central and South Region, Somalia															
Week	Bakool			Gedo			Galgadud			Lower Juba			GRAND TOTAL		
	Cases	Deaths	CFR%	Cases	Deaths	CFR%	Cases	Deaths	CFR%	Cases	Deaths	CFR%	Cases	Deaths	CFR%
1	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	223	7	3.14
3	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	137	9	6.57
5	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	70	5	7.14	628	20	3.18
7	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	102	5	4.90	654	27	4.13
9	0	0	0.00	0	0	0.00	0	0	0.00	124	8	6.45	1050	37	3.52
10	0	0	0.00	0	0	0.00	3	0	0.00	71	1	1.41	1679	96	5.72
11	0	0	0.00	112	9	8.04	245	10	4.08	55	2	3.64	2202	73	3.32
12	22	0	0.00	NA	NA	NA	109	4	3.67	0	0	0.00	1977	32	1.71
13	38	3	5.00	NA	NA	NA	198	5	2.53	0	0	0.00	2462	43	1.88
TOT	60	3	5.00	112	9	8.04	555	19	3.42	561	41	7.31	12429	408	3.36

Table2: 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	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	1351	0.70	66	4.89	
	Afgoye	135,012	583	0.43	31	5.32	
	Qoryoley	134,205	436	0.32	47	10.78	
	K/Warey	55,445	570	1.03	20	3.51	
	Sablale	43,055	90	0.21	7	7.78	
	Brave	57,652	213	0.37	6	2.82	
	Awdegle	76,700	160	0.21	16	10.00	
TOTAL		695,008	3403	0.49	193	5.67	
Lower Juba	Kismayo	166,667	510	0.31	28	5.49	Lab. confirmation (10) <i>V. Cholera Ogawa</i>
	Jamame	129,149	51	0.04	13	25.49	
TOTAL		295,816	561	0.19	41	7.31	
Banadir	Mogadishu	901,183	4628	0.51	71	1.53	Lab. confirmation (24) <i>V. Cholera Inaba</i>
TOTAL		901,183	4628	0.51	71	1.53	
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	112	0.11	9	8.04	
TOTAL		106,172	112	0.11	9	8.04	
Bay	Baidoa	726,849	493	0.07	17	3.45	
TOTAL		726,849	493	0.07	17	3.45	
Galgudud	Galaheri	330,057	555	0.17	19	3.42	
TOTAL		330,057	555	0.17	19	3.42	
Bakool	Wajid	246,335	60	0.02	3	5.00	
TOTAL		246,335	60	0.02	3	5.00	
GRAND TOTAL		3,799,636	12429	0.33	414	3.33	

3 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*². 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 **Xayat 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 Nalidixic acid, Chloramphenicol, and Cotrimoxazole, intermediate sensitive to Ciprofloxacin and Norfloxacin while sensitive to Tetracycline.

4 Outbreak control task force

WHO organized extensive case management training in **Baidoa and Wajid** to ensure appropriate treatment of patients to a large number of health staff responsible in the different health units and Cholera Treatment Centres. On the job training took place in the Cholera Treatment Centre of Baidoa, where no further deaths were reported. The WHO team conducted a rumour investigation in **Safaronyle**, to provide local health staff with case management training and necessary supplies.

WHO also mobilized an environmental health engineer from Darfur, Sudan, to Wajid and Baidoa. Training on water quality is being conducted in close collaboration with UNICEF and ACF.

Results of a drinking water quality assessment carried out in Baidoa by WHO and UNICEF show that chlorination in some places is inadequate or absent. Awareness meetings with water supply companies to emphasize the importance of chlorination were held, and an action plan for continuous monitoring of drinking water quality and chlorination is currently being elaborated.

In Mogadishu, access for UN agencies remains off limit, ACF continues chlorination of the 326 wells in Mogadishu. ACF is preparing to open a CTC and has 600 litres of ringer lactate in stock, as well as 12 000 sachets of Oral Rehydration Salts (ORS) and 10 drums of chlorine.

According to rough estimates, 10 000 to 12 000 displaced families have arrived in **Afgoye** so far. CED, a local NGO supported by OXFAM NOVIB started distributing water to 1250 families in **Elasha, Hawa Abdi, and Lafole**. The NGO aims to increase the quantities to reach 6000 families.

COSV has been chlorinating the main 25 drinking water wells in **Lower Shabelle** and trained 45 volunteers from SAREDO, Somali Red Crescent Society and the community on chlorination practices. COSV's mobile clinics provide awareness and health education on the prevention of diarrhoea

² 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.

The NGOs WAMY and MANHAL are conducting social mobilization through local radio stations like IQK radio and radio Banadir, with messages on how to prevent diarrhoea. MANHAL will be delivering diarrhoea supplies to **Banadir** hospital and other areas in need.

MSF-Spain is running a CTC in **Forlanini** and is chlorinating in the area.

Muslim-Aid UK delivered 500 sachets of ORS and 1.5 kg of chlorine to **Gobaanle** and other villages of W/Wayne, and has an additional 2391 litre of ringer lactate, 900 sachets of ORS and 78 kg of chlorine in stock.

The Somali Red Crescent Society (SRCS) is running 4 ORT corners and conducted refresher training for its staff on case management of AWD. SRSC delivered 100 litres of ringer lactate and 2000 sachets of ORS to **Afgoye hospital, Lafole and Hawa Abdi**, provided by UNICEF.

World Vision (**WV**) is treating AWD cases at the outpatient department of the health units in Sakkow, Selagle and Bualle. Supplies are running out fast and WV is looking for replenishment, as well as additional health staff. WV is also distributing chlorine tablets.