



13 July 2007

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

The report is built on surveillance data that health service providers and NGOs transmit on a weekly basis from health facilities and hospitals in Somaliland.

Highlights

- Between 1 January and 13 July, 2007, **3019** Acute Watery Diarrhoea (AWD) cases were reported from Somaliland including 43 related deaths.
- In the current week (epidemiological week 28), the reported number of cases decreased by **9%**, in comparison to the previous week (210 and 252 respectively).
- The overall Case Fatality Rate (CFR) continues to decrease from **5.26%** in epidemiological week 20, to **1.43%** in the current week.
- Overall, **Toghheer** region reported **52%** (1871) of the total number of reported cases, including **44%** (19) of the total related deaths. The trend shows a marked decrease in the reported cases compared to the last epidemiological week.
- Although Adwal region (Borama) reported only **12%** (358) of the total reported cases, it reported the highest CFR at **2.23%**.
- V. cholerae** serogroup **O1**, serotype **Inaba** was confirmed in 26 out of 62 samples collected from Hargeisa and Burao.

Overall, the number of reported Acute Watery Diarrhea cases is decreasing in the 3 regions

In this issue

- ✓ Detailed epidemiological description of the current (07-13 July 2007) AWD outbreak in Somaliland;
- ✓ AWD data including age distribution;
- ✓ Easy-to-grasp figures showing the trends in the affected regions;

WHO Somalia

P.O.Box: 63565

Nairobi - Kenya

T: +254 20 762 3197 / 2840

WHO Representative: Dr Fouad Mojallid
mojilladf@nbo.emro.who.int

Technical information:

Dr Hammam El Sakka

elsakkah@nbo.emro.who.int

M: + 254 736661111

Photo: Dr Hammam El Sakka, WHO Somalia

<http://www.emro.who.int/somalia>

1 Epidemiological week No 28: Overall results

Between 22 March and 13 July 2007, a total of **3019** cases of clinically diagnosed **Acute Watery Diarrhoea (AWD)** including **43** related deaths (**CFR¹ 1.42%**) were reported from Somaliland. Cases were reported from 3 regions (Toghheer, Awdal and Wogooyi Galbeed) with an estimated population of **1,063,855**; the overall attack rate² (**AR**) is **0.28%**.

In the current week (epidemiological week 28), the reported cases increased by **9%** in comparison to the previous week (210 and 252 cases respectively) due to the decrease the in number of reported cases in the 3 regions. The overall CFR continues to decrease from **5.26%** in epidemiological week 20 to **1.43%** in week 28. The weekly distribution of AWD cases and CFR is shown in figure 1.

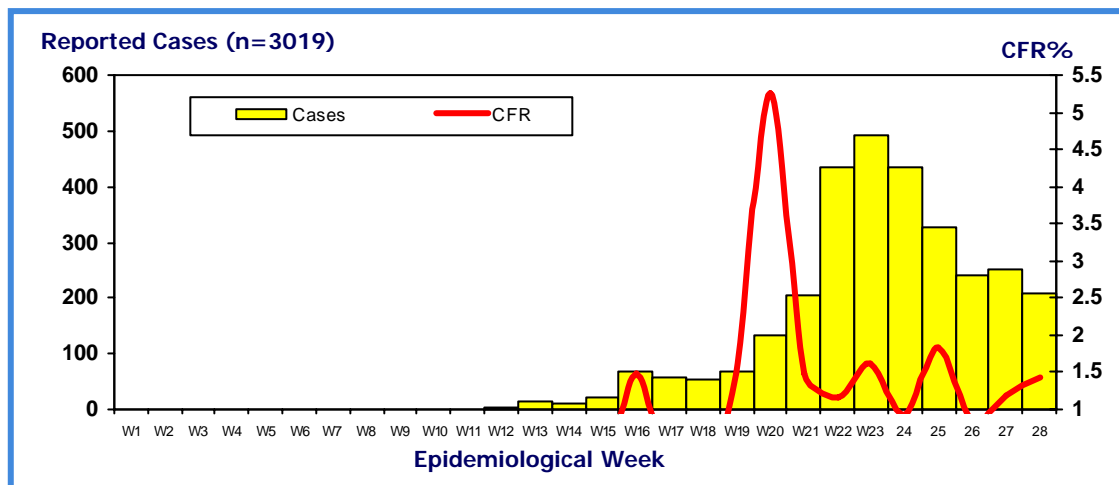


Figure 1: Distribution of AWD cases, Somaliland, 01 January -13 July 2007

Overall, **62%** (1871/3019) of the AWD cases occurred in equal to or above 5 years old age group including **53%** (23/43) of all reported deaths. Although the less than 5 years old age group reported **38%** (1148/3019), the Case Fatality Rate (**CFR**) was higher compared to the more than 5 years old age group (**1.74%** and **1.23%** respectively). The weekly distribution of AWD cases by age groups is shown in figure 2.

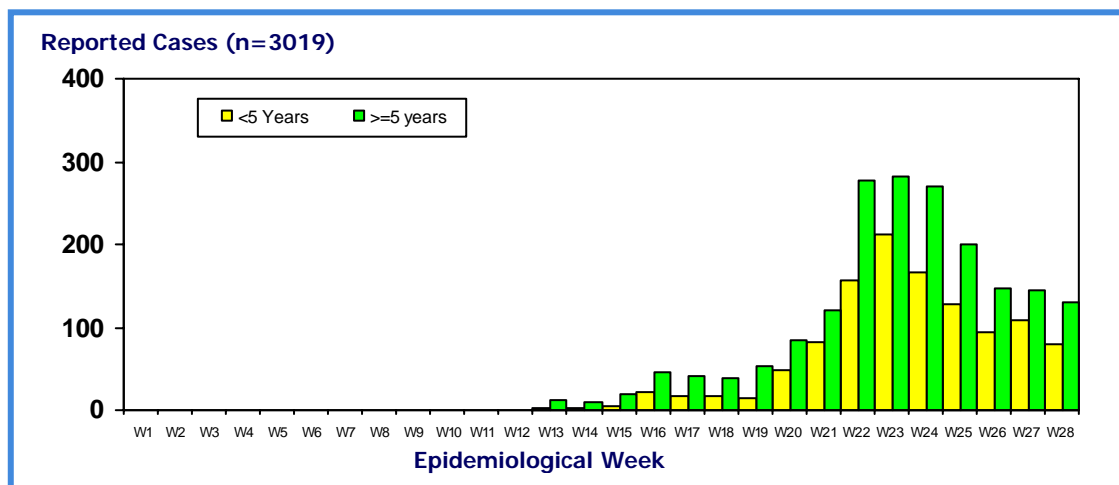


Figure 2: Distribution of AWD cases by age groups, Somaliland, 01 January -13 July 2007

¹ The case fatality rate (CFR) refers to the number of deaths per 100 cases

² WHO/EMC/ DIS/97.11 "Attack rate of 0.5% would be used for urban areas, 0.2% for rural areas and 1-2% for refugee/displaced populations as a worst case scenario"

The **first** report of an increase in AWD cases was received from **Burao** district in **Toghheer region** in epidemiological **week 12**. After reaching the peak in week 22, cases started to decrease up to the current epidemiological week. Burao district is divided into 4 main sectors. Cases were reported from different locations named; Sheik Bashir (reported the majority of the cases), Farah Omer, Aden Suleiman, Mohamed Ali and Kossar. Only 3 cases were reported from villages outside Burao town named; Ununlay, Lebiguun and Kabadhere villages. In the current week, Burao district reported 121 cases including 1 related-death (CFR **0.83%**), in comparison to the previous week, a **decrease of 25%** was observed (121 and 134 respectively).

In epidemiological **week 14**, the first cases of AWD were reported from **Hargeisa, Wogooyi Galbeed** region. Hargeisa town reported 3 cases of AWD and the number of reported cases continued to increase reaching the peak in epidemiological week 23. However, a **decrease of 12%** was observed in the current epidemiologic week compared to the previous week (60 and 77 respectively).

Starting from epidemiological **week 16**, **Borama district**, Awdal region reported AWD cases with a high Case Fatality Rate (CFR **4.35%**). The peak was reached in epidemiological week 23, but a sharp decrease was observed in the last 4 weeks. In the current week, Borama district reported 29 cases with no related-death (CFR **0.00%**). In comparison to the previous week, a decrease of **17%** was observed (29 and 41 respectively).

The distribution of AWD cases by region is shown in figure 3.

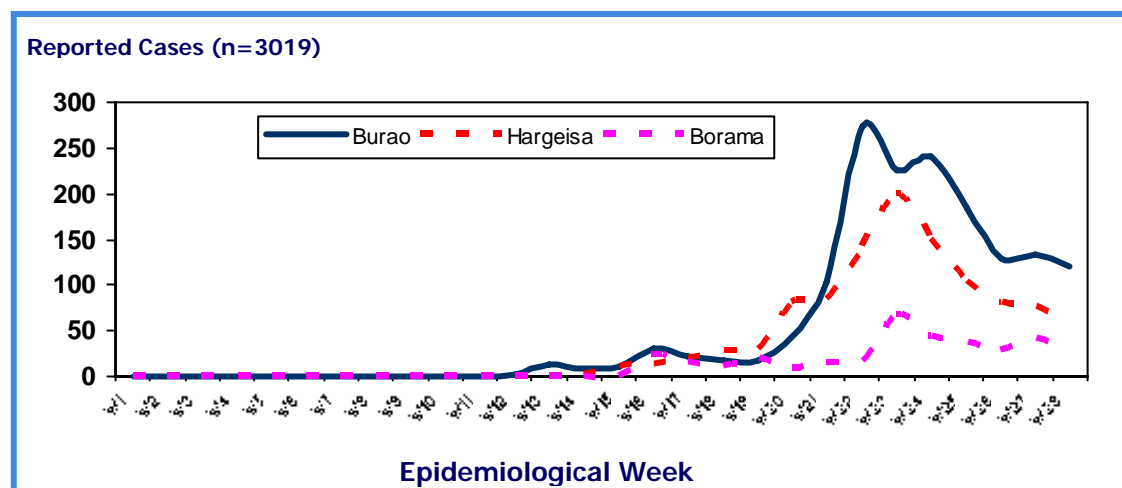


Figure 3: Distribution of AWD cases by region, Somaliland, 1 January -13 July 2007

During the same reporting period, **52%** (1871/3019) of AWD cases were reported from **Toghheer** region (Burao) including **44%** (19/43) of the total related deaths (CFR³ **1.21%**). **Thirty-six percent** (1087) were reported from Wogooyi Galbeed region (Hargeisa) including **37%** (16) of the total related deaths (CFR **1.47%**). Although **Awdal** region (Borama) reported only **19%** (8) of the total related deaths, it reported the highest CFR at **2.23%**.

Overall, equal or more than 5 years old group represented **62%** (1871/3019) of the total number of reported cases. The age distribution in both Burao and Hargeisa is almost identical; the less than 5 years old group represented **34%** of the total reported cases. In Borama, the less than 5 years old represented **66%** of the total reported cases which may

³ <http://www.who.int/topics/cholera/control/en/index.html> "Prompt and appropriate medical management of cases can significantly decrease mortality (Case Fatality Rate); when applied properly; case-fatality rate should be below 1%. In untreated cases the fatality rate may reach 30-50%. These levels are often observed in crisis situations with overcrowding, limited access to health care and precarious environmental management".

indicate that the cholera case definition is not appropriately used. The age distribution of reported AWD in the 3 regions is shown in figure 4 and table 1.

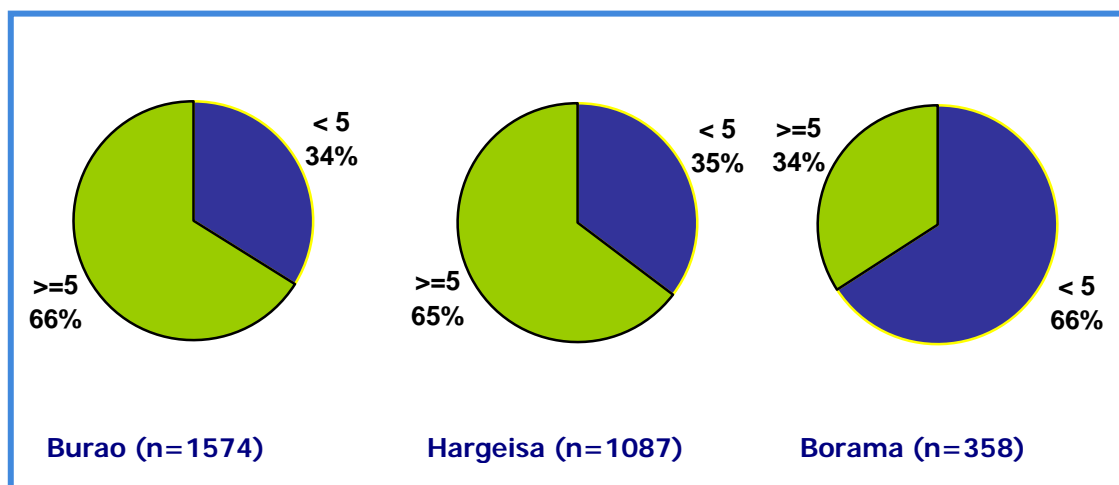


Figure 4: Distribution of AWD cases by age groups, Somaliland, 1 January -13 July 2007

The charts below (Figure 5-1 to 5-3) show the weekly distribution of AWD and the logarithmic trend line (in black). The charts demonstrate that the outbreak started in Burao district in March 2007, and then spread to Hargeisa in early April followed by Borama in the middle of April 2007. The overall trend line (Figure 5-4) shows that the number of reported cases is decreasing in Somaliland.

2 Distribution of Acute Watery Diarrhoea cases by region, Somaliland, 1 January-13 July 2007 (Figure 5)

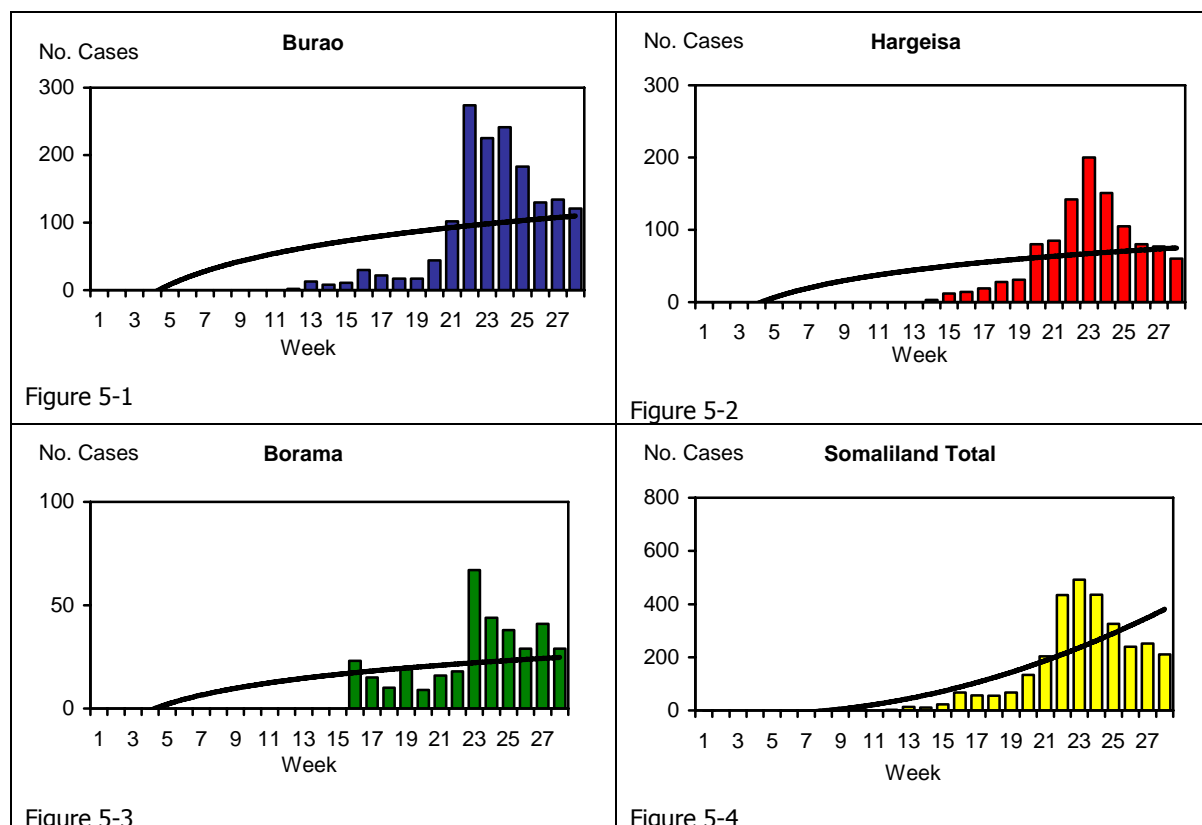


Table 1: Distribution of reported Acute Watery Diarrhoea cases and deaths by region in Somaliland

Week	Burao (Toghheer)					Hargeisa (Awdal)					Borama (Wogooyi Galbeed)					Total				
	Cases		Deaths		CFR	Cases		Deaths		CFR	Cases		Deaths		CFR	Cases		Deaths		CFR
	<5	>=5	>5	<5		<5	>=5	>5	<5		<5	>=5	>5	<5		<5	>=5	>5	<5	
1	0	0	0	0	0.00	0	0	0	0	0.00	0	0	0	0	0.00	0	0	0	0	0.00
2	0	0	0	0	0.00	0	0	0	0	0.00	0	0	0	0	0.00	0	0	0	0	0.00
3	0	0	0	0	0.00	0	0	0	0	0.00	0	0	0	0	0.00	0	0	0	0	0.00
4	0	0	0	0	0.00	0	0	0	0	0.00	0	0	0	0	0.00	0	0	0	0	0.00
5	0	0	0	0	0.00	0	0	0	0	0.00	0	0	0	0	0.00	0	0	0	0	0.00
6	0	0	0	0	0.00	0	0	0	0	0.00	0	0	0	0	0.00	0	0	0	0	0.00
7	0	0	0	0	0.00	0	0	0	0	0.00	0	0	0	0	0.00	0	0	0	0	0.00
8	0	0	0	0	0.00	0	0	0	0	0.00	0	0	0	0	0.00	0	0	0	0	0.00
9	0	0	0	0	0.00	0	0	0	0	0.00	0	0	0	0	0.00	0	0	0	0	0.00
10	0	0	0	0	0.00	0	0	0	0	0.00	0	0	0	0	0.00	0	0	0	0	0.00
11	0	0	0	0	0.00	0	0	0	0	0.00	0	0	0	0	0.00	0	0	0	0	0.00
12	1	1	0	0	0.00	0	0	0	0	0.00	0	0	0	0	0.00	1	1	0	0	0.00
13	2	11	0	0	0.00	0	0	0	0	0.00	0	0	0	0	0.00	2	11	0	0	0.00
14	2	6	0	0	0.00	0	3	0	0	0.00	0	0	0	0	0.00	2	9	0	0	0.00
15	3	8	0	0	0.00	1	11	0	0	0.00	0	0	0	0	0.00	4	19	0	0	0.00
16	6	24	0	0	0.00	1	13	0	0	0.00	15	8	0	1	4.35	22	45	0	1	1.49
17	6	16	0	0	0.00	2	17	0	0	0.00	8	7	0	0	0.00	16	40	0	0	0.00
18	7	10	0	0	0.00	4	24	0	0	0.00	5	5	0	0	0.00	16	39	0	0	0.00
19	4	13	0	0	0.00	4	27	0	1	3.23	6	13	0	0	0.00	14	53	0	1	1.49
20	16	28	0	3	6.82	25	55	0	1	1.25	8	1	3	0	33.33	49	84	3	4	5.26
21	36	66	0	0	0.00	30	55	0	2	2.35	16	0	1	0	6.25	82	121	1	2	1.49
22	96	178	3	0	1.09	47	95	0	2	1.41	13	5	0	0	0.00	156	278	3	2	1.15
23	72	153	3	3	2.41	85	115	1	0	0.47	54	13	1	0	1.33	211	281	5	3	1.48
24	70	171	1	2	1.16	64	87	1	0	1.25	32	12	0	0	0.00	166	270	2	2	1.09
25	70	113	1	0	0.55	36	69	1	3	3.81	21	17	0	1	2.63	127	199	2	4	1.84
26	50	80	0	0	0.00	27	53	0	2	2.50	16	13	0	0	0.00	93	146	0	2	0.84
27	50	84	2	0	1.49	35	42	0	0	0.00	23	18	1	0	2.44	108	144	3	0	1.19
28	45	76	1	0	0.83	14	46	0	2	3.33	20	9	0	0	0.00	79	131	1	2	1.43
TOT	536	1038	11	8	1.21	375	712	3	13	1.47	237	121	6	2	2.23	1148	1871	20	23	1.42

*** D; Deaths, CFR%; Case Fatality Rate per 100 cases

3 Laboratory confirmation / drug resistance

Date	District	No. tested	Confirmed	Results		Antibiotic Sensitivity Test		
				Organism	Serotype	Chloramphenicol	Tetracycline	Erythromycin
23 March 07	Burao	3	3	<i>V. cholerae</i>	<i>Inaba</i>	Sensitive	Sensitive	Sensitive
31 March 07	Hargeisa	3	3	<i>V. cholerae</i>	<i>Inaba</i>	Resistant ⁴	Sensitive	Sensitive
04 April 07	Burao	8	1	<i>V. cholerae</i>	<i>Inaba</i>	Resistant	Sensitive	Sensitive
04 April 07	Hargeisa	5	2	<i>V. cholerae</i>	<i>Inaba</i>	Sensitive	Sensitive	Sensitive
07 April 07	Hargeisa	3	2	<i>V. cholerae</i>	<i>Inaba</i>	1XR, 1XS	Sensitive	Sensitive
11 April 07	Hargeisa	4	3	<i>V. cholerae</i>	<i>Inaba</i>	Resistant	Sensitive	Sensitive
13 April 07	Hargeisa	11	8	<i>V. cholerae</i>	<i>Inaba</i>	3XR, 5XS	Sensitive	Sensitive
16 April 07	Hargeisa	1	0	<i>V. cholerae</i>	<i>Inaba</i>	NA	NA	NA
17 April 07	Hargeisa	5	0	<i>V. cholerae</i>	<i>Inaba</i>	NA	NA	NA
18 April 07	Hargeisa	1	0	<i>V. cholerae</i>	<i>Inaba</i>	NA	NA	NA
19 April 07	Hargeisa	3	2	<i>V. cholerae</i>	<i>Inaba</i>	Sensitive	Sensitive	Sensitive
21 April 07	Hargeisa	4	0	<i>V. cholerae</i>	<i>Inaba</i>	NA	NA	NA
23 April 07	Hargeisa	4	1	<i>V. cholerae</i>	<i>Inaba</i>	Sensitive	Sensitive	Sensitive
24 April 07	Hargeisa	7	1	<i>V. cholerae</i>	<i>Inaba</i>	Sensitive	Sensitive	Sensitive
TOTAL		62	26	<i>V. cholerae</i> serogroup O1, serotype <i>Inaba</i>.				

Between 23 March and 24 April 2007, a total of 62 stool samples were tested in Hargeisa general hospital laboratory; of these **42%** (26/62) were positive for ***V. cholerae* serogroup O1, serotype *Inaba***. Eighty-five percent (51/62) of the samples were from Hargeisa and the remaining 15% were from Burao. Overall, the mean age of positive samples was 28.03 years, ranging from 6-70 years. Fifty-three percents (14/26) were females. The antibiotics sensitivity test showed 42% (11/26) of the isolated *V. cholera* was resistant to Chloramphenicol.

From the 51 samples collected from Hargeisa **43%** (22/51) were positive, and, the mean age of positive samples was 28.82 years, ranging from 6-70 years. Fifty percent (14/22) were females.

From the samples collected from Burao **36%** (4/11) were positive, and the mean age of positive samples was 34.00 years, ranging from 7-70 years. Seventy-five percent (14/26) were females.

⁴ All *V. cholerae* serogroup O1 serotype *Inaba* positive samples collected in South and Central zones of Somalia were sensitive to Chloramphenicol.