



Photo: Dr Hammam El Sakka, WHO Somalia

27 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 27 July, 2007, **3560** Acute Watery Diarrhoea (AWD) cases were reported from Somaliland including 45 related deaths (CFR 1.26%).
- In the current week (epidemiological week 30), the reported number of cases increased by **7%**, in comparison to the previous week (268 and 251 respectively).
- In the current epidemiological week no AWD related-death was reported from all regions in Somaliland.
- Overall, Togheer region reported 55% (1972) of the total number of reported cases, including 44% (20/45) of the total related deaths. The trend shows a marked increase in the reported cases compared to the last epidemiological week.
- Although Adwal region (Borama) reported only **12%** (426) of the total reported cases, it reported the highest CFR at **1.88%**.

Overall, the number of reported Acute Watery Diarrhoea cases is increasing in Togheer region while decreasing in Wogooyi Galbeed and Adwal regions.

In this issue

- ✓ Detailed epidemiological description of the current (21-27 July 2007) AWD outbreak in Somaliland;
- ✓ AWD data including age distribution;
- ✓ Easy-to-grasp figures showing the trends in the affected regions;

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1 Epidemiological week No 30: Overall results

Between 01 January and 27 July 2007, a total of **3560** cases of clinically diagnosed **Acute Watery Diarrhoea (AWD)** including **45** related deaths (**CFR¹ 1.26%**) 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 **0.33%**.

In the current week (epidemiological week 30), the reported cases increased by **7%** in comparison to the previous week (268 and 251 cases respectively) due to the increase in number of reported cases in Toghheer region. The overall CFR continues to decrease from **5.26%** in epidemiological week 20 to **1.26%** in the epidemiological 30. No AWD related-death was reported and accordingly the CFR showed a decrease in comparison with the previous week (**0.00%** and **0.80%** respectively). The weekly distribution of AWD cases and CFR is shown in figure 1.

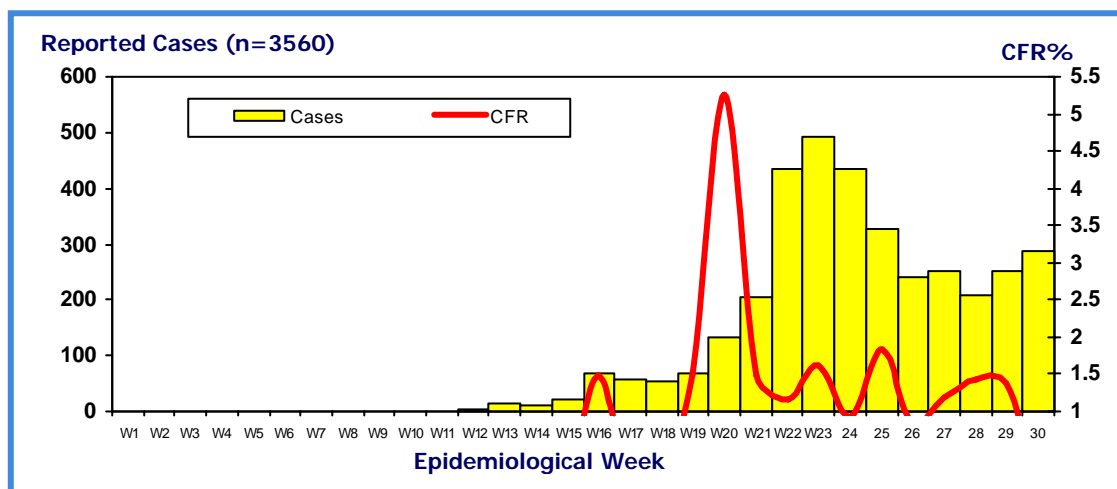


Figure 1: Distribution of AWD cases, Somaliland, 01 January-27 July 2007

Overall, **62%** (2222/3560) of the AWD cases occurred in equal to or above 5 years old age group including **53%** (24/45) of all reported deaths. Although the less than 5 years old age group reported **38%** (1338/3560), the Case Fatality Rate (**CFR**) was higher compared to the more than 5 years old age group (**1.57%** and **1.08%** respectively). The weekly distribution of AWD cases by age groups is shown in figure 2.

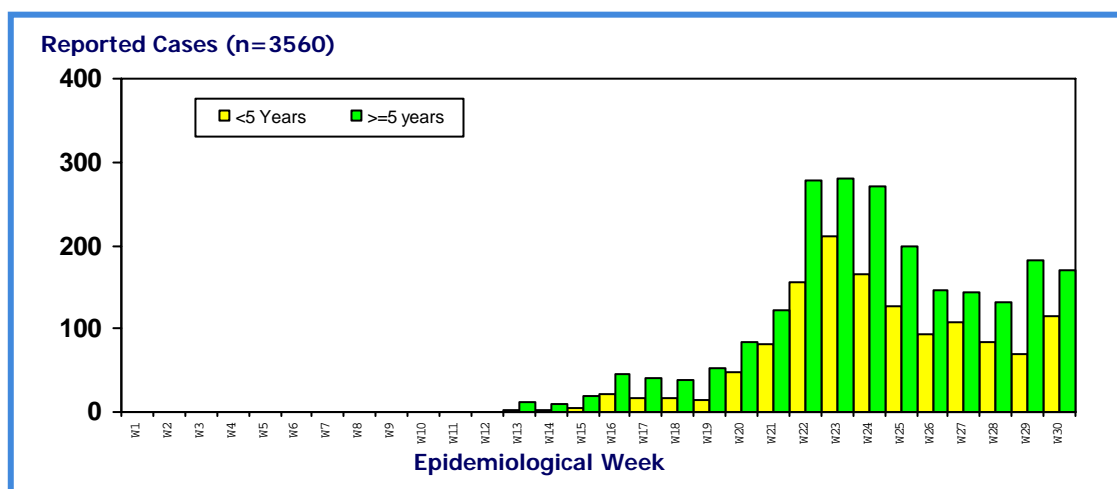


Figure 2: Distribution of AWD cases by age groups, Somaliland, 01 January-27 July 2007

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 222 cases with no related-death (CFR **0.00%**), in comparison to the previous week, an **increase of 13%** was observed (222 and 172 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 4%** was observed in the current epidemiologic week compared to the previous week (28 and 39 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 reported 40 cases with no related-death (CFR **0.00%**). In comparison to the previous week, the number of reported cases was decrease by **18%** was observed (28 and 40 respectively).

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

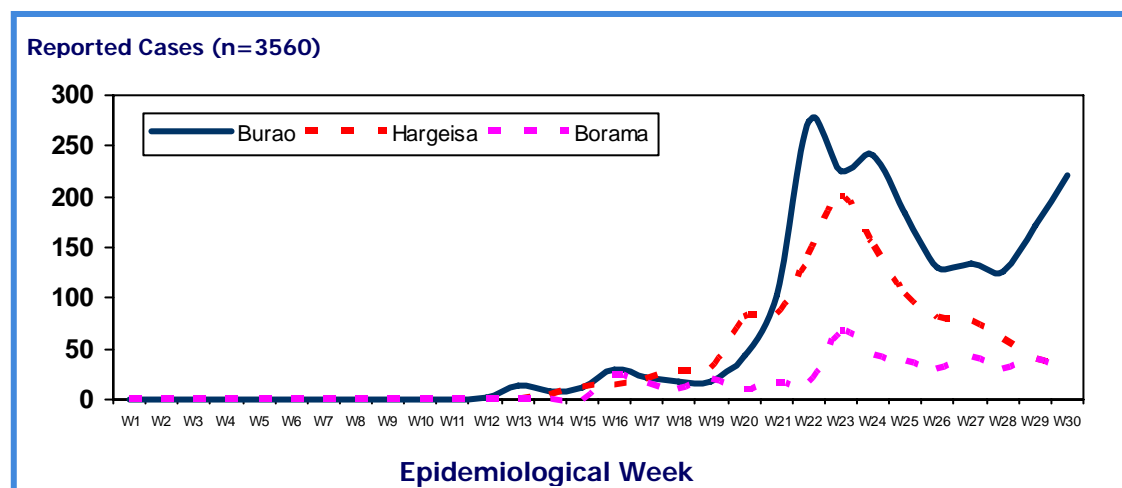


Figure 3: Distribution of AWD cases by region, Somaliland, 1 January-27 July 2007

During the same reporting period, **55%** (1972/3560) of AWD cases were reported from **Toghheer** region (Burao) including **44%** (20/45) of the total related deaths (CFR³ **1.01%**). **Thirty-three percent** (1162) were reported from Wogooyi Galbeed region (Hargeisa) including **38%** (17) of the total related deaths (CFR **1.46%**). Although **Awdal** region (Borama) reported only **18%** (8) of the total related deaths, it reported the highest CFR at **1.88%**.

Overall, equal or more than 5 years old group represented **62%** (2222/3560) 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%** and **35%** respectively of the total reported cases. In Borama, the less than 5 years old represented **59%** of the total reported cases which may 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.

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".

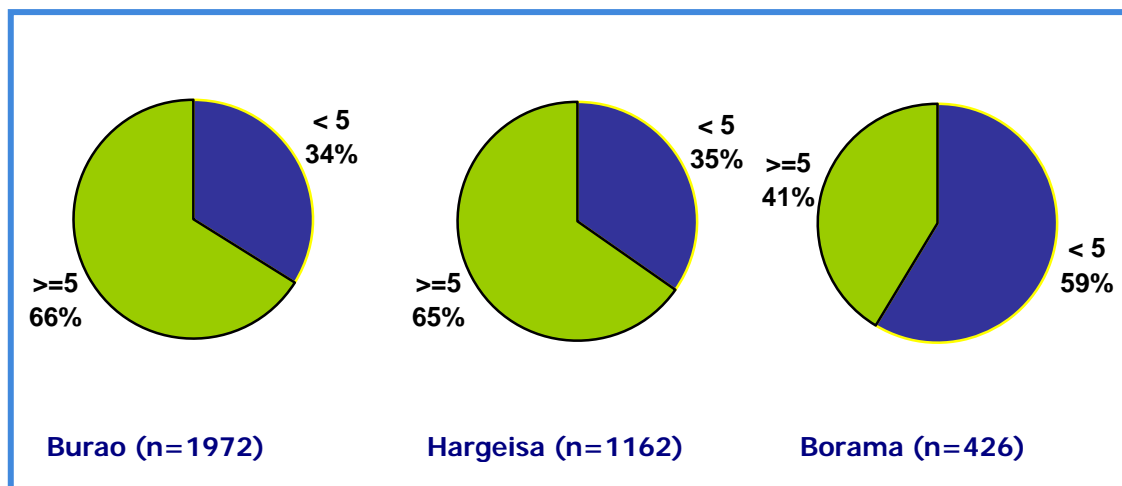


Figure 4: Distribution of AWD cases by age groups, Somaliland, 1 January-27 July 2007

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 increasing in Somaliland due to increase number of reported cases from Burao.

2 Distribution of Acute Watery Diarrhoea cases by region, Somaliland, 1 January-27 July 2007 (Figure 5)

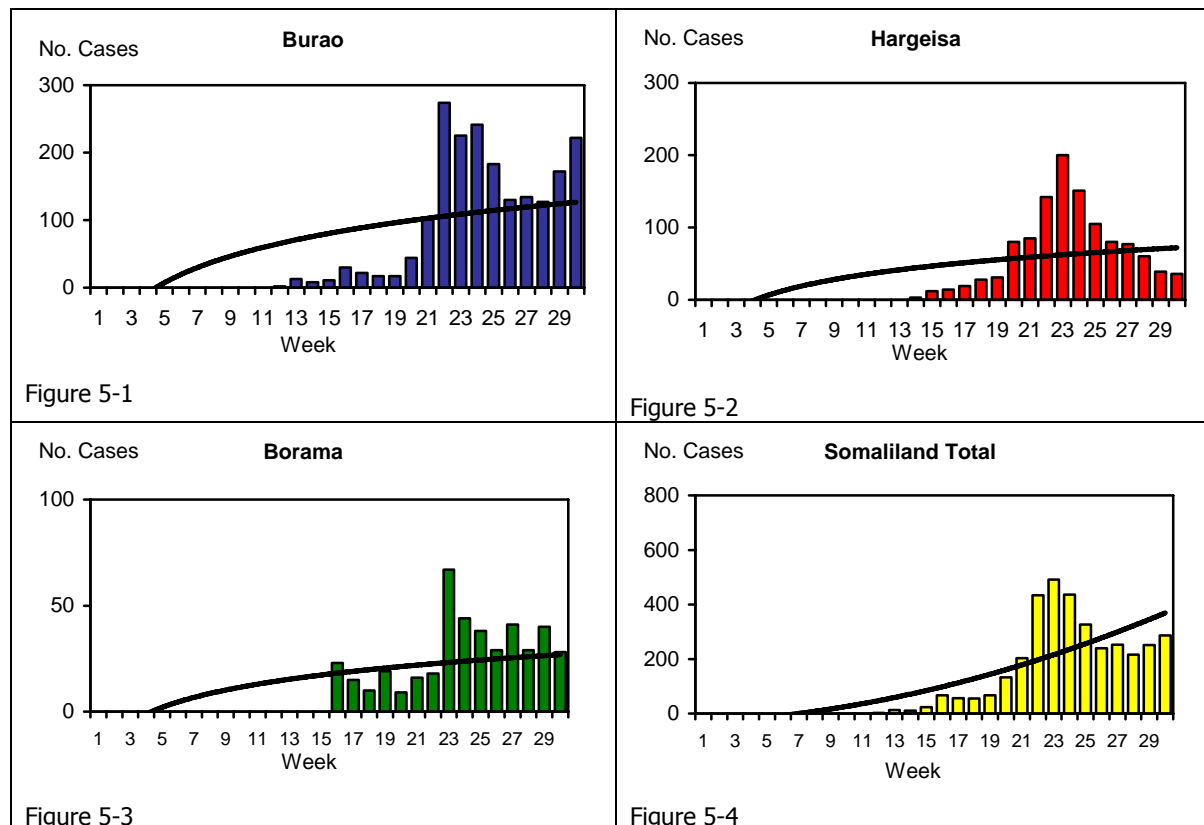


Table 1: Distribution of reported Acute Watery Diarrhoea cases and deaths by region in Somaliland

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	0	0	0	0	0.00	0	0	0	0	0.00	0	0	0	0	0.00	0	0	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	51	76	1	0	0.79	14	46	0	2	3.33	20	9	0	0	0.00	85	131	1	2	1.43
29	39	133	1	0	0.58	18	21	0	1	2.56	13	27	0	0	0.00	70	181	1	1	0.80
30	87	135	0	0	0.00	12	24	0	0	0.00	16	12	0	0	0.00	115	171	0	0	0.00
TOT	667	1305	12	8	1.01	405	757	3	14	1.46	266	160	6	2	1.88	1338	2222	21	24	1.26

*** 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.

In the epidemiological week 29, **7** stool samples were collected from patients with AWD in Awdal region (3 from Borama and 4 from Hariirad village), Samples were tested in Hargeisa Hospital, and all samples were negative for ***V. cholerae***.

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