



Photo: Dr Hammam El Sakka, WHO Somalia

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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 06 July, 2007, **2809** Acute Watery Diarrhoea (AWD) cases were reported from Somaliland including 40 related deaths.
- In the current week (epidemiological week 27), the reported number of cases increased by **2%**, in comparison to the previous week (252 and 239 respectively).
- In comparison with previous epidemiological weeks, the overall Case Fatality Rate (CFR) continues to decrease from **5.26%** in epidemiological week 20, to **1.19%** in the current week.
- Overall, **Toghheer** region reported **52%** (1453) of the total number of reported cases, including **45%** (18) of the total related deaths. The trend shows a slight increase in the reported cases compared to the last epidemiological week.
- Although Adwal region reported only **12%** (259) of the total reported cases, it reported the highest CFR **2.43%**.
- V. cholerae* serogroup O1, serotype *Inaba* was confirmed in 26 out of 62 samples collected from Hargeisa and Burao.**

The number of reported AWD cases is slightly increasing in Toghheer and Wogooyi regions while decreasing in Awdal region.

In this issue

- ✓ Detailed epidemiological description of the current (30 June-6 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 27: Overall results

Between 22 March and 06 July 2007, a total of **2809** cases of clinically diagnosed **Acute Watery Diarrhoea (AWD)** including **40** 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 **0.26%**.

In the last **two** epidemiological weeks (26-27), the reported number of cases decreased in Awdal regions while slightly increased in Toghheer and Wogooyi Galbeed regions. In the current week (epidemiological week 27), the reported cases increased by **2%**, in comparison with the previous week (252 and 239 cases respectively). The overall CFR continues to decrease from **5.26%** in epidemiological week 20 to **1.19%** in week 27. The weekly distribution of AWD cases and CFR is shown in figure 1.

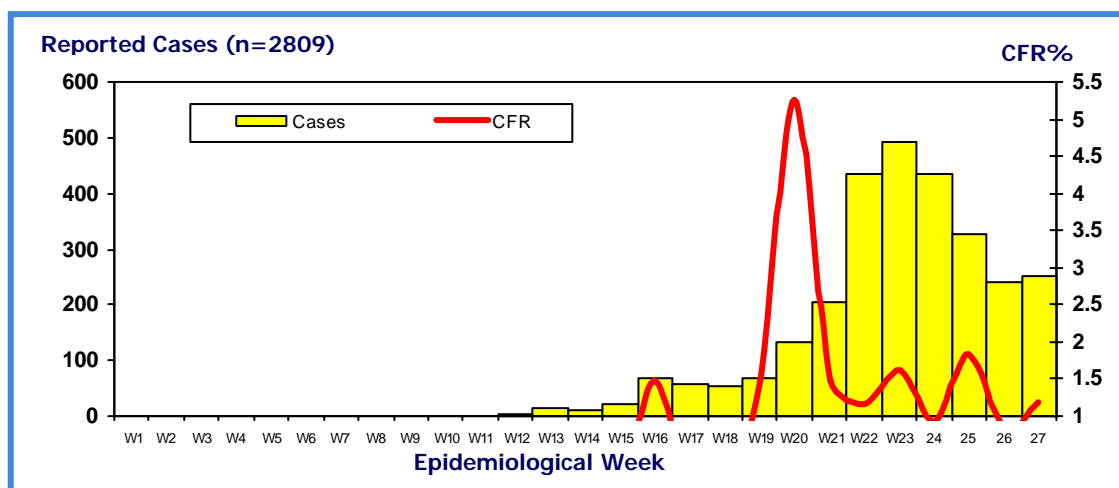
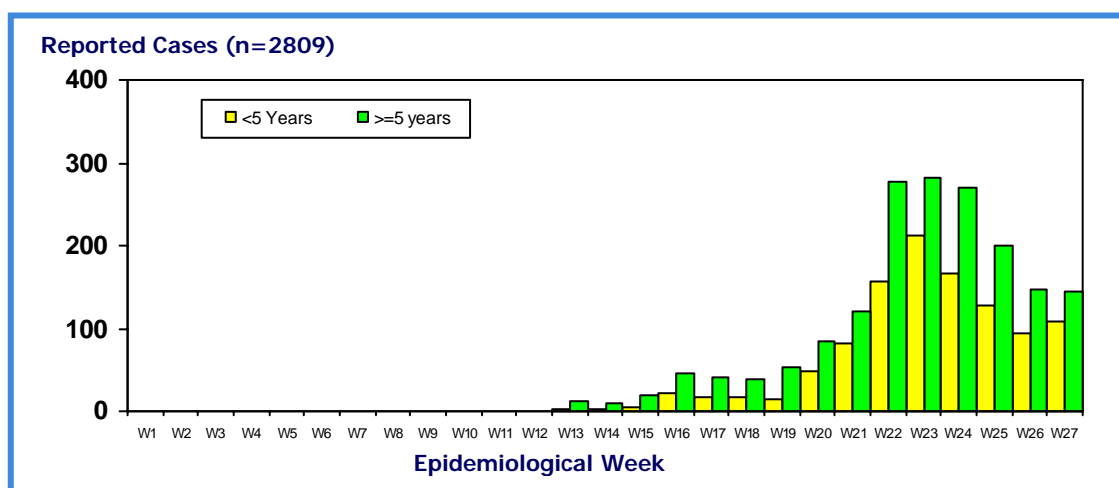


Figure 1: Distribution of AWD cases, Somaliland, 01 January -06 July 2007

Overall, **62%** (1740/2809) of the AWD cases occurred in equal to or above 5 years old age group including **52%** (21/40) of all reported deaths. Although the less than 5 years old age group reported **38%** (1069/2809), the Case Fatality Rate (**CFR**) was higher compared to the more than 5 years old age group (**1.78%** and **1.21%** respectively). The weekly distribution of AWD cases by age groups is shown in figure 2.



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"

Figure 2: Distribution of AWD cases by age groups, Somaliland, 01 January -06 July 2007

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. In the current week, Burao district reported 134 cases including 2 death (CFR **1.49%**), in comparison to the previous week, an **increase of 2%** was observed (134 and 130 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 2%** was observed in the current epidemiologic week compared to the previous week (77 and 80 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 41 cases including 1 death (CFR **2.44%**). In comparison to the previous week, an **increase of 17%** was observed (41 and 29 respectively).

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

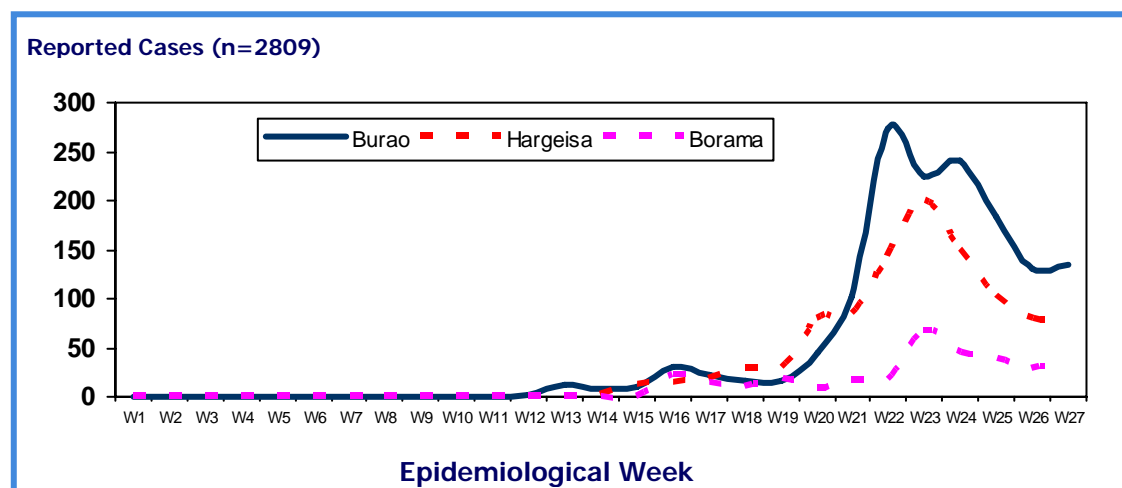


Figure 3: Distribution of AWD cases by region, Somaliland, 1 January -06 July 2007

During the same reporting period, **52%** (1453/2809) of AWD cases were reported from **Toghheer** region (Burao) including **45%** (18/40) of the total related deaths (CFR³ **1.24%**). **Thirty-seven percent** (1027) were reported from Wogooyi Galbeed region (Hargeisa) including **35%** (14) of the total related deaths (CFR **1.36%**). Although **Awdal** region (Borama) reported only **20%** (8) of the total related deaths, it reported the highest CFR at **2.43%**.

Overall, equal or more than 5 years old group represented **62%** (1740/2809) 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, but in Borama, the less than 5 years old represented only **34%** 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".

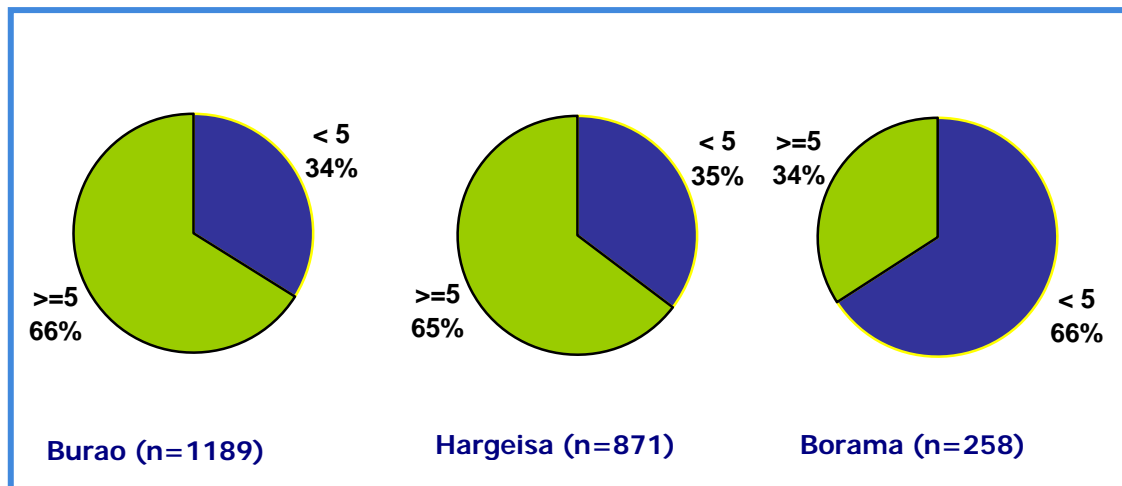


Figure 4: Distribution of AWD cases by age groups, Somaliland, 1 January -06 July 2007

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-06 July 2007 (Figure 5)

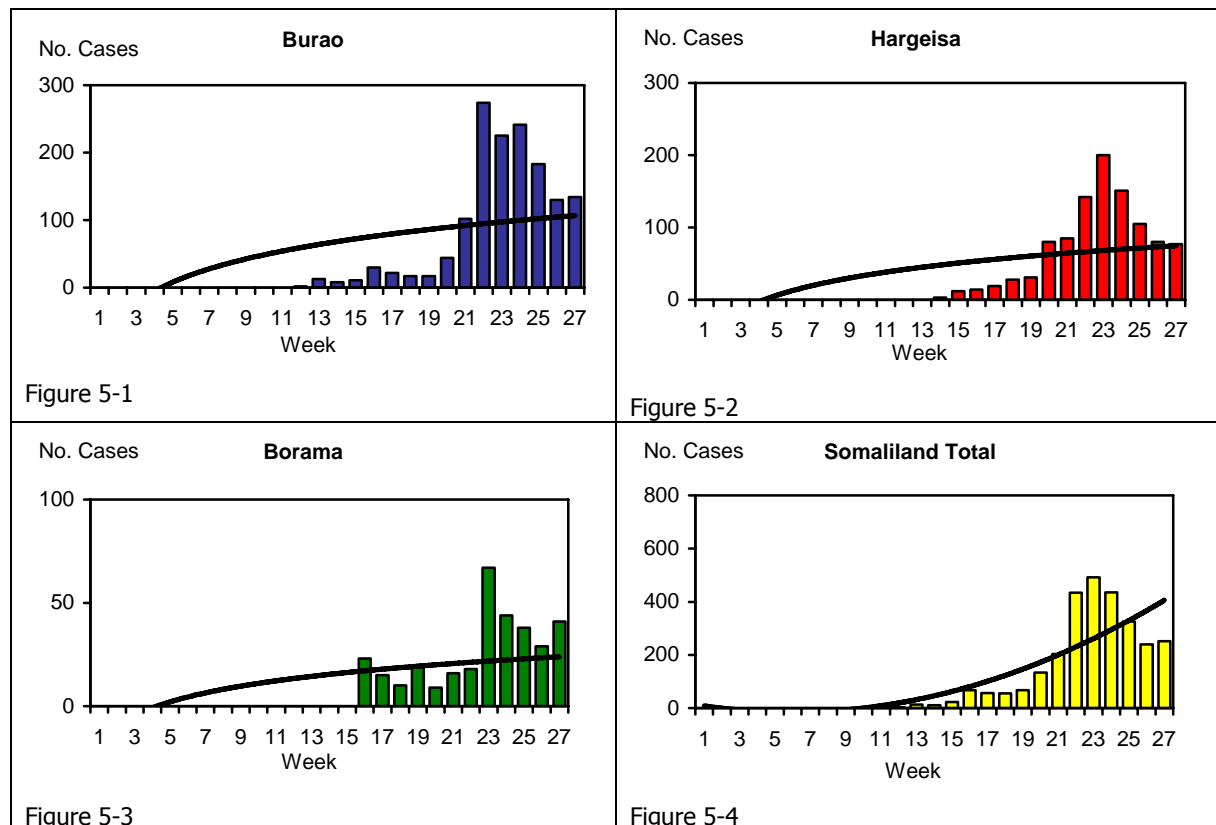


Table 1: Distribution of reported Acute Watery Diarrhoea cases and deaths by region in Somaliland

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
TOT	491	962	10	8	1.24	361	666	3	11	1.36	217	112	6	2	2.43	1069	1740	19	21	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.