

WHO Somalia

Acute Watery Diarrhoea Update



Regional Office for the Eastern Mediterranean

8 June 2007



Photo: Dr Hammam El Sakka, WHO Somalia

Dr Ala'din Alwan, the WHO Assistant Director-General for Health Action in Crises, Dr Fouad Moja'llid, WHO Representative for Somalia, and Dr Abdallah Assadi, Assistant Regional Director for the WHO regional office for the Eastern Mediterranean (EMRO) during a field visit to an IDP camp in Baidoa, Bay region on 27 May 2007, to follow up on WHO activities in response to the AWD outbreak.

This update describes the development, status, and activities implemented by the humanitarian community in response to the Acute Watery Diarrhoea outbreak in Somalia. 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 South and Central Somalia.

Highlights

- Between 1 January and 8 June 2007, **36 275** of Acute Watery Diarrhoea (AWD) cases were reported from Central and South Zone including **1102 related deaths**.
- In the current week (epidemiological week 23), the reported cases decreased by 25%, in comparison to the previous week (724 and 1209 respectively).
- In comparison to the previous epidemiological weeks, the overall Case Fatality Rate (CFR) continued to decrease from **4.32%** in epidemiological week 14, to **0.83%** in the current week.
- Overall, Banadir region reported **41% (14 703)** cases, including **15% (170)** of the total related deaths. However, the trend shows a sharp decrease in the reported cases in the last epidemiological weeks.
- Although Bakool region reported only **2% (649)** of the total reported cases, they reported one the highest CFR at **6.63%**.
- No cases were reported from **Bay** region in the current week and the cholera treatment centre (CTC) in Baidoa was closed on 31 May.

The Acute Watery Diarrhoea (AWD) trend showed that the number of reported cases is decreasing in all the 10 regions.

This update has been made possible thanks to the support of:



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1 Epidemiological week No 23: Overall results

Between 1 January and 8 June 2007, a total of **36 275** cases of clinically diagnosed **Acute Watery Diarrhoea (AWD)** including **1102** related deaths (**CFR¹ 3.04%**) 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 **4,121,647**; the overall attack rate² (**AR**) was **0.88%**.

In the last **four** epidemiological weeks (20 to 23), the trend shows a decrease in the number of reported cases in all the 10 regions. In the current week (epidemiological week 23), the reported cases decreased by **25%**, in comparison to the previous week (724 and 1209 cases respectively). The overall CFR continued to decrease: from 4.32% in epidemiological week 14 to 0.83% in week 23. The weekly distribution of AWD cases and CFR is shown in figure 1.

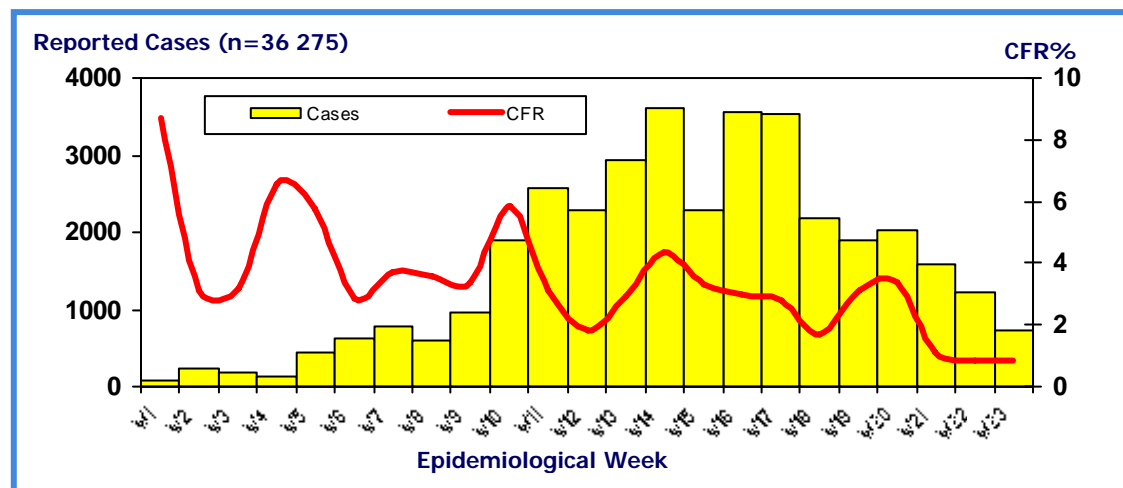


Figure 1: Distribution of AWD cases, Central and South Somalia, 01 January-8 June 2007

The **first** report of an increase in AWD cases was received from **Hiiraan region** in the first epidemiological week of 2007. After reaching the peak in week 7, cases started to decrease up to date (no cases were reported since epidemiological week 12).

In epidemiological **week 3**, the first cases of AWD were reported from **Middle Shabelle** region. The peak was reached in epidemiological week 7, but a slight decrease was observed in epidemiologic weeks 8-11 with another increase in epidemiological week 12, followed by a steady decrease in the last 7 weeks (epidemiological weeks 16 to 23).

Starting from epidemiological **week 5**, **Lower Juba** region reported AWD cases with a high Case Fatality Rate. The peak was reached in epidemiological week 9, but a slight decrease was observed in epidemiologic weeks 10-16 with another increase in epidemiological weeks 17-19. However in the last 4 epidemiological week the number of reported cases decreased dramatically by **24%**. In the current week the cases were decreased by **one-third** (143 and 87 respectively).

In the beginning of epidemiological **week 6**, an increase of AWD cases was reported from **Lower Shabelle** region. The peak was reached in epidemiological week 10, but a slight decrease was observed in the epidemiologic weeks 11 and 12 with another increase in epidemiological week 13, followed by a steady sharp decrease in the last 9 weeks (epidemiological weeks 14 to 23).

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"

Banadir region started reporting cases from **week 8**. The trend shows a continuous increase up to week 13. In the last 7 epidemiological weeks (16 and 23), a sharp decrease in the reported AWD cases was observed. In the current week, the cases decreased by about 35% in comparison to the previous week (429 and 626 respectively). The CFR showed a sharp decrease from 0.83 in week 19 to 0.23 in the current week.

Bay region started to report cases in epidemiological **week 9**. In the current week, no more cases were reported and the Cholera Treatment Centre (CTC) in Baidoa was closed accordingly. The total number of AWD cases by age group, number of deaths and CFR is shown in table 3.

Gedo region started to report cases in epidemiological **week 10** followed by a marked decrease in the epidemiological week 19, but a slight increase in both reported cases and CFR were observed in week 20. In the current week the number of cases has decreased dramatically by about **30%** compared to the previous week (76 and 151 cases respectively).

Galgadud region reported AWD cases in epidemiological **week 10**. The peak was observed in epidemiological week 13 then showed a slight decrease in the number of reported cases until epidemiological week 16. A sharp decrease was observed in weeks 18-19 (40 and 27 cases respectively). However week 20 saw a marked increase in the number of cases due to the fact that **ICRC** reported **368** cases including **38** related deaths (**CFR 9.29%**) from **Hindar** district in Galgadud. In week 21, ICRC reported another 150 cases with no related-deaths from the same location. Several attempts have been made to monitor the situation; however, no data has been available for the epidemiological weeks 22 and 23. Nonetheless, investigation is going on to collect further information.

Bakool region started to report cases in epidemiological **week 12** with an increase in the number of cases reaching the peak in the epidemiological week 17. A sharp decrease was observed in the epidemiological weeks 18 and 19 which continued till week 21. Since week 22, no more cases have been reported and the cholera treatment centre was closed accordingly. The total number of AWD cases reported from Bakool region by age group, number of deaths and CFR is shown in table 4.

In epidemiological **week 14**, **Middle Juba** region reported 927 cases including 59 related-deaths (CFR 6.36%). No more reports were received in weeks 15-18. In week 19, 129 cases were reported with 33 related-deaths. However, this trend quickly showed a decrease in the following weeks and the current week showed about **50%** decrease compared to the previous week (69 and 183 respectively).

The charts below (Figure 3-1 to 3-8) show the weekly distribution of AWD and the logarithmic trend line (in black). The charts demonstrate that the outbreak started in Hiiraan region early in January 2007, and then spread to Middle Shabelle in late January. Lower Shabelle region reported cases in February, while Banadir, Gedo and Bay regions cases were reported in early March, followed by Galgadud region. The trend line shows that the number of reported cases is decreasing in all the 10 regions.

2 Distribution of Acute Watery Diarrhoea cases by region, South and Central Somalia, 1 January-8 June 2007 (Figure 2)

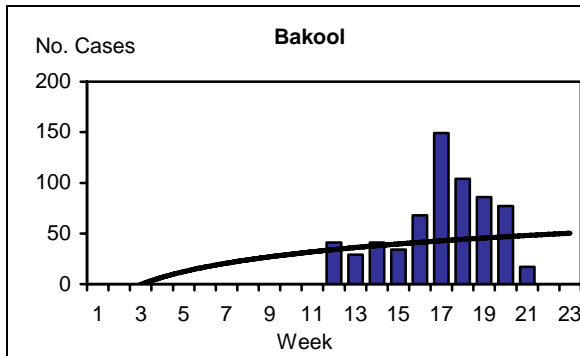


Figure 2-1

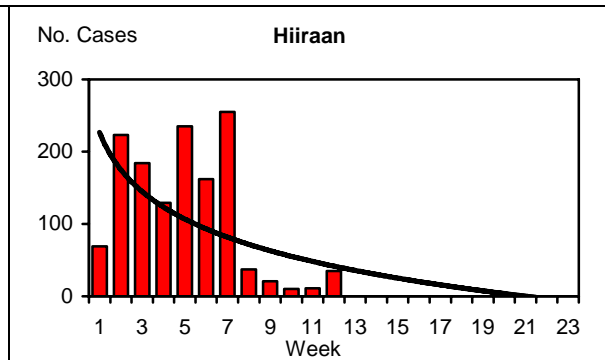


Figure 2-2

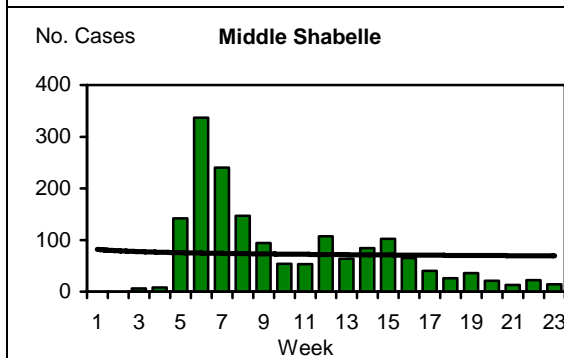


Figure 2-3

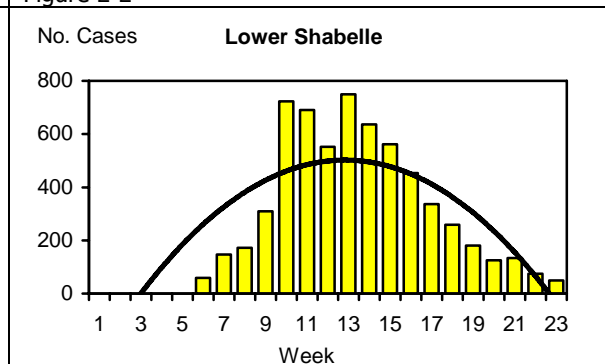


Figure 2-4

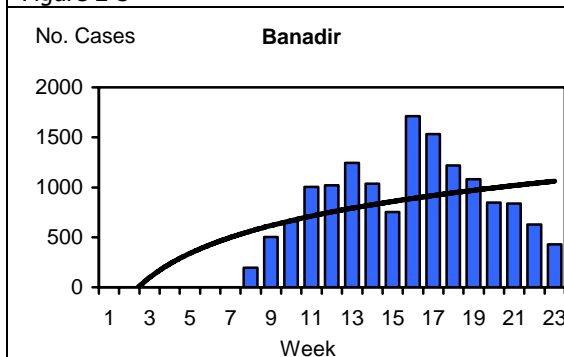


Figure 2-5

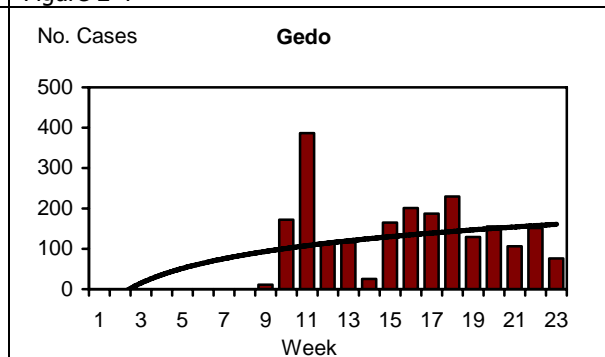


Figure 2-6

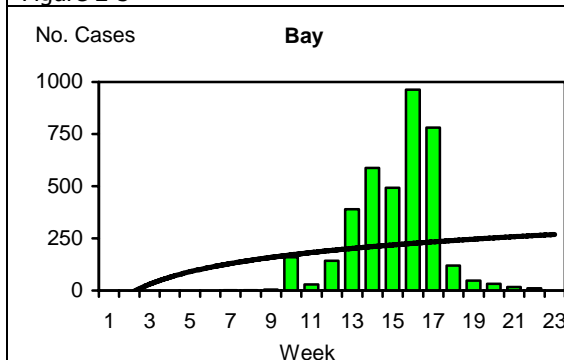


Figure: 2-7

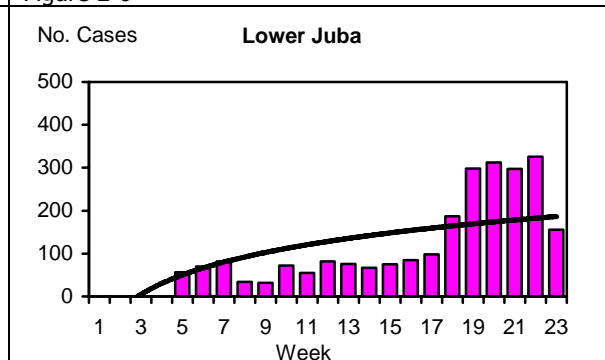


Figure 2-8

Overall, the highest attack rate (AR) was observed in **Gedo** region with **2.15%** and **Banadir** with **1.63%**, followed by **Lower Shabelle** and **Middle Shabelle** with **0.89%** and **0.78%** respectively. The lowest attack rate was observed in **Bakool** (**0.26%**) and **Lower Juba** (**0.49%**). The attack rate per 100 population is shown in figure 3.

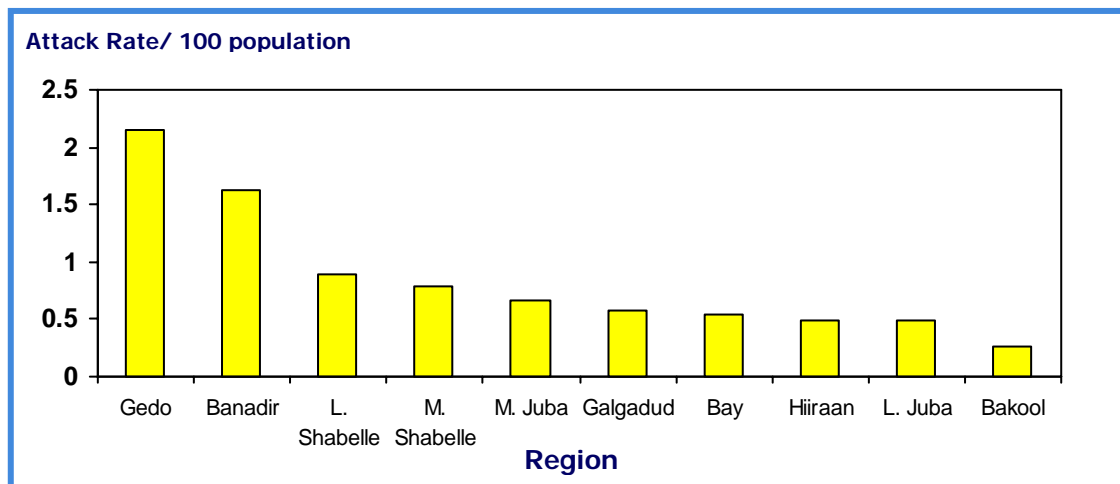


Figure 3: Distribution of AWD cases, deaths and CFR by region, Central and South Somalia, 1 January-8 June 2007

During the same reporting period, **41%** (14 703/36 275) of AWD cases were reported from **Banadir** region including **15%** (170/1102) of the total related deaths (**CFR³ 1.16%**). **Seventeen percent** (6211) were reported from **Lower Shabelle** including **23%** (252) of the total related deaths (**CFR 4.06%**). **Eleven percent** (4005) were reported from **Bay** including **21%** (228) of the total related deaths (**CFR 5.69%**). The highest **CFR** was seen in **Middle Juba** at **7.22%**. **Gedo** region reported **6%** (2281) including **5%** (51) of the total related deaths (**CFR 2.24%**). Although **Bakool** region reported only **2%** (649) of the total reported cases, it reported one of the highest **CFR** at **6.63%**.

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

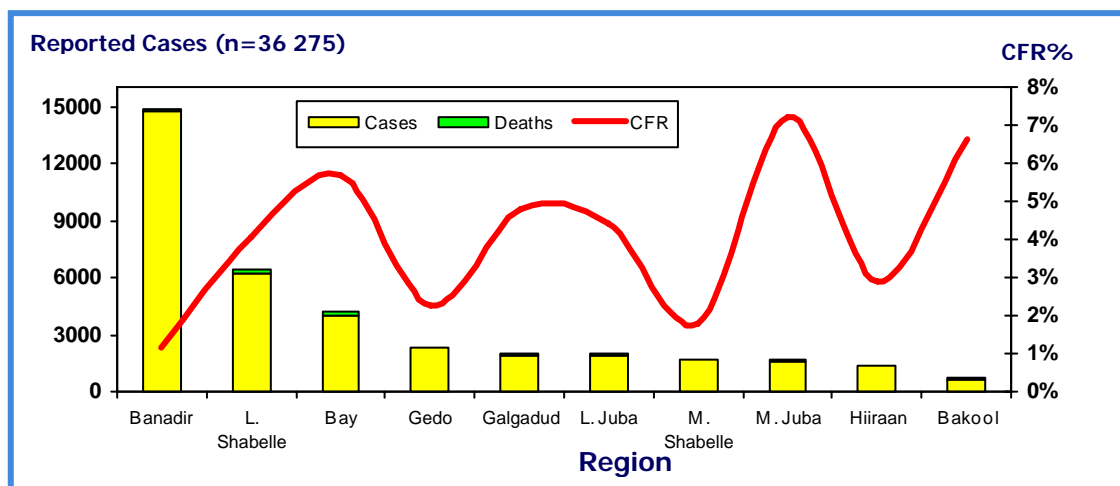


Figure 4: Distribution of AWD cases, deaths and CFR by region, Central and South Somalia, 1 January-8 June 2007

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"

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 – 8 June 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 | 0 | 0 | 0 | 0 | 0 | 0.00 | 0 | 0 | 0.00 |
| 2 | 223 | 7 | 3.14 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 | 0 | 0 | 0.00 |
| 3 | 184 | 6 | 3.26 | 0 | 0 | 0 | 0 | 0 | 0 | 6 | 0 | 0.00 | 0 | 0 | 0.00 |
| 4 | 129 | 8 | 6.20 | 0 | 0 | 0 | 0 | 0 | 0 | 8 | 1 | 12.50 | 0 | 0 | 0.00 |
| 5 | 235 | 6 | 2.55 | 0 | 0 | 0 | 0 | 0 | 0 | 142 | 4 | 2.82 | 0 | 0 | 0.00 |
| 6 | 162 | 4 | 2.47 | 0 | 0 | 0 | 59 | 5 | 8.47 | 337 | 4 | 1.19 | 0 | 0 | 0.00 |
| 7 | 255 | 3 | 1.18 | 0 | 0 | 0 | 147 | 18 | 12.24 | 240 | 3 | 1.25 | 1 | 0 | 0.00 |
| 8 | 37 | 0 | 0.00 | 196 | 2 | 1.02 | 172 | 15 | 8.72 | 147 | 4 | 2.72 | 2 | 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 | 203 | 14 | 8.81 |
| 11 | 11 | 0 | 0.00 | 1006 | 16 | 1.59 | 691 | 33 | 4.78 | 73 | 2 | 2.74 | 92 | 2 | 6.90 |
| 12 | 35 | 0 | 0.00 | 1021 | 14 | 1.37 | 552 | 13 | 2.36 | 107 | 1 | 0.93 | 172 | 4 | 2.82 |
| 13 | 0 | 0 | 0.00 | 1244 | 17 | 1.37 | 750 | 22 | 2.93 | 64 | 0 | 0.00 | 412 | 31 | 7.97 |
| 14 | 0 | 0 | 0.00 | 1036 | 21 | 2.03 | 636 | 15 | 2.36 | 84 | 1 | 1.19 | 566 | 43 | 7.33 |
| 15 | 0 | 0 | 0.00 | 751 | 8 | 1.07 | 562 | 21 | 3.74 | 102 | 2 | 1.96 | 452 | 25 | 5.08 |
| 16 | 0 | 0 | 0.00 | 1711 | 29 | 1.69 | 453 | 12 | 2.65 | 65 | 2 | 3.08 | 945 | 44 | 4.57 |
| 17 | 0 | 0 | 0.00 | 1534 | 16 | 1.04 | 337 | 8 | 2.37 | 40 | 2 | 5.00 | 930 | 44 | 5.63 |
| 18 | 0 | 0 | 0.00 | 1219 | 7 | 0.57 | 259 | 1 | 0.39 | 28 | 1 | 3.57 | 119 | 14 | 11.67 |
| 19 | 0 | 0 | 0.00 | 1081 | 9 | 0.83 | 180 | 0 | 0.00 | 36 | 1 | 2.78 | 47 | 4 | 8.51 |
| 20 | 0 | 0 | 0.00 | 849 | 3 | 0.35 | 125 | 0 | 0.00 | 21 | 0 | 0.00 | 32 | 0 | 0.00 |
| 21 | 0 | 0 | 0.00 | 839 | 5 | 0.60 | 133 | 0 | 0.00 | 13 | 1 | 7.69 | 17 | 0 | 0.00 |
| 22 | 0 | 0 | 0.00 | 626 | 0 | 0.00 | 74 | 2 | 2.70 | 22 | 0 | 0.00 | 10 | 1 | 10.00 |
| 23 | 0 | 0 | 0.00 | 429 | 1 | 0.23 | 49 | 0 | 0.00 | 14 | 0 | 0.00 | 0 | 0 | 0.00 |
| TOT | 1371 | 40 | 2.92 | 14703 | 170 | 1.16 | 6211 | 252 | 4.06 | 1697 | 30 | 1.77 | 4022 | 228 | 5.69 |

| Central and South Region, 1 January – 8 June 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 | 25 | 5.76 |
| 6 | 0 | 0 | 0.00 | 0 | 0 | 0.00 | 0 | 0 | 0.00 | 0 | 0 | 0.00 | 70 | 5 | 7.14 | 628 | 18 | 2.87 |
| 7 | 1 | 0 | 0.00 | 55 | 0 | 0.00 | 0 | 0 | 0.00 | 0 | 0 | 0.00 | 82 | 5 | 6.10 | 781 | 29 | 3.71 |
| 8 | 2 | 0 | 0.00 | 0 | 0 | 0.00 | 0 | 0 | 0.00 | 0 | 0 | 0.00 | 34 | 0 | 0.00 | 590 | 21 | 3.56 |
| 9 | 0 | 0 | 0.00 | 11 | 0 | 0.00 | 0 | 0 | 0.00 | 0 | 0 | 0.00 | 32 | 2 | 6.25 | 974 | 33 | 3.39 |
| 10 | 0 | 0 | 0.00 | 172 | 13 | 7.56 | 3 | 0 | 0.00 | 0 | 0 | 0.00 | 72 | 3 | 4.17 | 1896 | 111 | 5.85 |
| 11 | 0 | 0 | 0.00 | 387 | 14 | 3.62 | 245 | 10 | 4.08 | 0 | 0 | 0.00 | 55 | 3 | 5.45 | 2560 | 80 | 3.13 |
| 12 | 41 | 3 | 7.32 | 115 | 4 | 3.48 | 166 | 0 | 0.00 | 0 | 0 | 0.00 | 82 | 2 | 2.44 | 2291 | 41 | 1.79 |
| 13 | 29 | 3 | 10.34 | 116 | 2 | 1.72 | 236 | 8 | 3.39 | 0 | 0 | 0.00 | 76 | 3 | 3.95 | 2927 | 86 | 2.94 |
| 14 | 41 | 2 | 4.88 | 25 | 3 | 12.00 | 228 | 10 | 4.39 | 927 | 59 | 6.36 | 67 | 2 | 2.99 | 3610 | 156 | 4.32 |
| 15 | 34 | 2 | 5.88 | 165 | 1 | 0.61 | 147 | 12 | 8.16 | 0 | 0 | 0.00 | 75 | 4 | 5.33 | 2288 | 75 | 3.28 |
| 16 | 68 | 5 | 7.35 | 201 | 4 | 1.99 | 23 | 4 | 17.39 | 0 | 0 | 0.00 | 85 | 5 | 5.88 | 3551 | 105 | 2.96 |
| 17 | 149 | 16 | 10.74 | 187 | 0 | 0.00 | 245 | 10 | 4.08 | 0 | 0 | 0.00 | 98 | 1 | 1.02 | 3520 | 97 | 2.76 |
| 18 | 104 | 8 | 7.69 | 230 | 2 | 0.87 | 40 | 0 | 0.00 | 0 | 0 | 0.00 | 187 | 4 | 2.14 | 2186 | 37 | 1.69 |
| 19 | 86 | 0 | 0.00 | 129 | 2 | 1.55 | 27 | 0 | 0.00 | 129 | 33 | 25.58 | 169 | 10 | 5.92 | 1884 | 59 | 3.13 |
| 20 | 77 | 4 | 5.19 | 155 | 5 | 3.23 | 409 | 38 | 9.29 | 131 | 15 | 11.45 | 232 | 3 | 1.29 | 2031 | 68 | 3.35 |
| 21 | 17 | 0 | 0.00 | 106 | 1 | 0.94 | 150 | 0 | 0.00 | 127 | 3 | 2.36 | 170 | 7 | 4.12 | 1572 | 17 | 1.08 |
| 22 | 0 | 0 | 0.00 | 151 | 0 | 0.00 | NA | NA | NA | 183 | 2 | 1.09 | 143 | 5 | 3.50 | 1209 | 10 | 0.83 |
| 23 | 0 | 0 | 0.00 | 76 | 0 | 0.00 | NA | NA | NA | 69 | 1 | 1.45 | 87 | 4 | 4.60 | 724 | 6 | 0.83 |
| | 649 | 43 | 6.63 | 2281 | 51 | 2.24 | 1919 | 92 | 4.79 | 1566 | 113 | 7.22 | 1873 | 83 | 4.43 | 36275 | 1102 | 3.04 |

* Please note that the data included in the table is dynamic due to verifications and updating upon receiving the data from the field.

** 150 AWD cases with no related-deaths were reported by ICRC in the epidemiological week 21 from Hinder district in Galgadud.

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 | |
| | 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 | 2920 | 1.51 | 85 | 2.91 | |
| | Afgoye | 135,012 | 892 | 0.66 | 47 | 5.27 | |
| | Qoryoley | 134,205 | 608 | 0.45 | 52 | 8.55 | |
| | K/Warey | 55,445 | 772 | 1.39 | 30 | 3.89 | |
| | Sablale | 43,055 | 145 | 0.34 | 8 | 5.52 | |
| | Brave | 57,652 | 693 | 1.20 | 13 | 1.88 | |
| | Awdegle | 76,700 | 181 | 0.24 | 17 | 9.39 | |
| TOTAL | | 695,008 | 6211 | 0.89 | 252 | 4.06 | |
| Lower Juba | Kismayo | 166,667 | 1442 | 0.87 | 63 | 4.37 | Lab. confirmation (10) <i>V. Cholera Ogawa</i> |
| | Hagar | 31,800 | 273 | 0.86 | 5 | 1.83 | |
| | Afmadow | 51,334 | 107 | 0.21 | 2 | 1.87 | |
| | Jamame | 129,149 | 51 | 0.04 | 13 | 25.49 | |
| TOTAL | | 378,950 | 1873 | 0.49 | 83 | 4.43 | |
| Middle Juba | | 238,877 | 1566 | 0.66 | 113 | 7.22 | Week 15-18 data are missing |
| TOTAL | | 238,877 | 1566 | 0.66 | 113 | 7.22 | |
| Banadir | Mogadishu | 901,183 | 14703 | 1.63 | 170 | 1.16 | Lab. confirmation (24) <i>V. Cholera Inaba</i> |
| TOTAL | | 901,183 | 14703 | 1.63 | 170 | 1.16 | |
| Middle Shabelle | Jowhar | 218,027 | 1697 | 0.78 | 30 | 1.77 | All samples negative for <i>V. Cholera</i> . |
| TOTAL | | 218,027 | 1697 | 0.78 | 30 | 1.77 | |
| Gedo | Bardera | 106,172 | 2281 | 2.15 | 51 | 2.24 | Lab. confirmation (3) <i>V. Cholera Inaba</i> |
| TOTAL | | 106,172 | 2281 | 2.15 | 51 | 2.24 | |
| Bay | Baidoa | 726,849 | 4005 | 0.55 | 228 | 5.69 | |
| TOTAL | | 726,849 | 4005 | 0.55 | 228 | 5.69 | |
| Galgudud | Galaheri | 330,057 | 1919 | 0.58 | 92 | 4.79 | |
| TOTAL | | 330,057 | 1919 | 0.58 | 92 | 4.79 | |
| Bakool | Wajid | 246,335 | 649 | 0.26 | 43 | 6.63 | |
| TOTAL | | 246,335 | 649 | 0.26 | 43 | 6.63 | |
| GRAND TOTAL | | 4,121,647 | 36 275 | 0.88 | 1102 | 3.04 | |

Table 3: Distribution of reported Acute Watery Diarrhoea cases, deaths and CFR by district, Bay region*

| Week | Baidoa | | | | Burhakaba | | | | Bardale | | | | Densor | | | | Total | | |
|------|--------|------|----|-------|-----------|-----|----|-------|---------|-----|---|------|--------|-----|----|------|-------|-----|-------|
| | Cases | | D | CFR | Cases | | D | CFR | Cases | | D | CFR | Cases | | D | CFR | Cases | D | CFR |
| | <5 | >5 | | | <5 | >5 | | | <5 | >5 | | | <5 | >5 | | | | | |
| 1 | 0 | 0 | 0 | 0.00 | 0 | 0 | 0 | 0.00 | 0 | 0 | 0 | 0.00 | 0 | 0 | 0 | 0.00 | 0 | 0 | 0.00 |
| 2 | 0 | 0 | 0 | 0.00 | 0 | 0 | 0 | 0.00 | 0 | 0 | 0 | 0.00 | 0 | 0 | 0 | 0.00 | 0 | 0 | 0.00 |
| 3 | 0 | 0 | 0 | 0.00 | 0 | 0 | 0 | 0.00 | 0 | 0 | 0 | 0.00 | 0 | 0 | 0 | 0.00 | 0 | 0 | 0.00 |
| 4 | 0 | 0 | 0 | 0.00 | 0 | 0 | 0 | 0.00 | 0 | 0 | 0 | 0.00 | 0 | 0 | 0 | 0.00 | 0 | 0 | 0.00 |
| 5 | 0 | 0 | 0 | 0.00 | 0 | 0 | 0 | 0.00 | 0 | 0 | 0 | 0.00 | 0 | 0 | 0 | 0.00 | 0 | 0 | 0.00 |
| 6 | 0 | 0 | 0 | 0.00 | 0 | 0 | 0 | 0.00 | 0 | 0 | 0 | 0.00 | 0 | 0 | 0 | 0.00 | 0 | 0 | 0.00 |
| 7 | 0 | 1 | 0 | 0.00 | 0 | 0 | 0 | 0.00 | 0 | 0 | 0 | 0.00 | 0 | 0 | 0 | 0.00 | 1 | 0 | 0.00 |
| 8 | 0 | 2 | 0 | 0.00 | 0 | 0 | 0 | 0.00 | 0 | 0 | 0 | 0.00 | 0 | 0 | 0 | 0.00 | 2 | 0 | 0.00 |
| 9 | 0 | 5 | 2 | 40.00 | 0 | 0 | 0 | 0.00 | 0 | 0 | 0 | 0.00 | 0 | 0 | 0 | 0.00 | 5 | 2 | 0.00 |
| 10 | 0 | 159 | 14 | 8.81 | 0 | 0 | 0 | 0.00 | 9 | 35 | 0 | 0.00 | 0 | 0 | 0 | 0.00 | 203 | 14 | 0.00 |
| 11 | 17 | 12 | 2 | 6.90 | 0 | 0 | 0 | 0.00 | 15 | 48 | 0 | 0.00 | 0 | 0 | 0 | 0.00 | 92 | 2 | 0.00 |
| 12 | 59 | 67 | 2 | 1.59 | 8 | 8 | 2 | 12.50 | 7 | 23 | 0 | 0.00 | 0 | 0 | 0 | 0.00 | 172 | 4 | 0.00 |
| 13 | 112 | 103 | 6 | 2.79 | 47 | 127 | 25 | 14.37 | 6 | 17 | 0 | 0.00 | 0 | 0 | 0 | 0.00 | 412 | 31 | 0.00 |
| 14 | 142 | 145 | 14 | 4.88 | 28 | 186 | 23 | 10.75 | 0 | 2 | 0 | 0.00 | 23 | 40 | 6 | 9.52 | 566 | 43 | 7.60 |
| 15 | 92 | 67 | 2 | 1.26 | 20 | 142 | 9 | 5.56 | 0 | 0 | 0 | 0.00 | 17 | 114 | 9 | 6.87 | 452 | 25 | 5.53 |
| 16 | 186 | 298 | 30 | 6.20 | 36 | 72 | 5 | 4.63 | 0 | 0 | 5 | 0.00 | 29 | 324 | 9 | 2.55 | 945 | 44 | 4.66 |
| 17 | 90 | 144 | 20 | 8.55 | 0 | 0 | 0 | 0.00 | 37 | 125 | 0 | 0.00 | 63 | 471 | 24 | 0.00 | 930 | 44 | 0.00 |
| 18 | 49 | 28 | 0 | 0.00 | 0 | 0 | 0 | 0.00 | 0 | 0 | 0 | 0.00 | 3 | 39 | 14 | 0.00 | 119 | 14 | 0.00 |
| 19 | 35 | 12 | 4 | 8.51 | 0 | 0 | 0 | 0.00 | 0 | 0 | 0 | 0.00 | 0 | 0 | 0 | 0.00 | 47 | 4 | 0.00 |
| 20 | 14 | 18 | 0 | 0.00 | 0 | 0 | 0 | 0.00 | 0 | 0 | 0 | 0.00 | 0 | 0 | 0 | 0.00 | 32 | 0 | 0.00 |
| 21 | 11 | 6 | 0 | 0.00 | 0 | 0 | 0 | 0.00 | 0 | 0 | 0 | 0.00 | 0 | 0 | 0 | 0.00 | 17 | 0 | 0.00 |
| 22 | 9 | 1 | 1 | 10.00 | 0 | 0 | 0 | 0.00 | 0 | 0 | 0 | 0.00 | 0 | 0 | 0 | 0.00 | 10 | 1 | 10.00 |
| 23 | 0 | 0 | 0 | 0.00 | 0 | 0 | 0 | 0.00 | 0 | 0 | 0 | 0.00 | 0 | 0 | 0 | 0.00 | 0 | 0 | 0.00 |
| TOT | 816 | 1068 | 96 | 5.10 | 139 | 535 | 64 | 9.50 | 74 | 250 | 5 | 1.54 | 135 | 988 | 62 | 5.52 | 4005 | 228 | 5.69 |

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

Table 4: Distribution of reported Acute Watery Diarrhoea cases, deaths and CFR by district, Bakool region*

| Week | Wajid | | | | Elbon | | | | Burdhuhunle | | | | Tieglow | | | | Total | | |
|------|-------|-----|----|-------|-------|----|---|-------|-------------|-----|----|-------|---------|----|---|------|-------|----|-------|
| | Cases | | D | CFR | Cases | | D | CFR | Cases | | D | CFR | Cases | | D | CFR | Cases | D | CFR |
| | <5 | >5 | | | <5 | >5 | | | <5 | >5 | | | <5 | >5 | | | | | |
| 1 | 0 | 0 | 0 | 0.00 | 0 | 0 | 0 | 0.00 | 0 | 0 | 0 | 0.00 | 0 | 0 | 0 | 0.00 | 0 | 0 | 0.00 |
| 2 | 0 | 0 | 0 | 0.00 | 0 | 0 | 0 | 0.00 | 0 | 0 | 0 | 0.00 | 0 | 0 | 0 | 0.00 | 0 | 0 | 0.00 |
| 3 | 0 | 0 | 0 | 0.00 | 0 | 0 | 0 | 0.00 | 0 | 0 | 0 | 0.00 | 0 | 0 | 0 | 0.00 | 0 | 0 | 0.00 |
| 4 | 0 | 0 | 0 | 0.00 | 0 | 0 | 0 | 0.00 | 0 | 0 | 0 | 0.00 | 0 | 0 | 0 | 0.00 | 0 | 0 | 0.00 |
| 5 | 0 | 0 | 0 | 0.00 | 0 | 0 | 0 | 0.00 | 0 | 0 | 0 | 0.00 | 0 | 0 | 0 | 0.00 | 0 | 0 | 0.00 |
| 6 | 0 | 0 | 0 | 0.00 | 0 | 0 | 0 | 0.00 | 0 | 0 | 0 | 0.00 | 0 | 0 | 0 | 0.00 | 0 | 0 | 0.00 |
| 7 | 0 | 1 | 0 | 0.00 | 0 | 0 | 0 | 0.00 | 0 | 0 | 0 | 0.00 | 0 | 0 | 0 | 0.00 | 1 | 0 | 0.00 |
| 8 | 0 | 2 | 0 | 0.00 | 0 | 0 | 0 | 0.00 | 0 | 0 | 0 | 0.00 | 0 | 0 | 0 | 0.00 | 2 | 0 | 0.00 |
| 9 | 0 | 0 | 0 | 0.00 | 0 | 0 | 0 | 0.00 | 0 | 0 | 0 | 0.00 | 0 | 0 | 0 | 0.00 | 0 | 0 | 0.00 |
| 10 | 0 | 0 | 0 | 0.00 | 0 | 0 | 0 | 0.00 | 0 | 0 | 0 | 0.00 | 0 | 0 | 0 | 0.00 | 0 | 0 | 0.00 |
| 11 | 0 | 0 | 0 | 0.00 | 0 | 0 | 0 | 0.00 | 0 | 0 | 0 | 0.00 | 0 | 0 | 0 | 0.00 | 0 | 0 | 0.00 |
| 12 | 7 | 34 | 3 | 7.32 | 0 | 0 | 0 | 0.00 | 0 | 0 | 0 | 0.00 | 0 | 0 | 0 | 0.00 | 41 | 3 | 7.32 |
| 13 | 12 | 17 | 3 | 10.34 | 0 | 0 | 0 | 0.00 | 0 | 0 | 0 | 0.00 | 0 | 0 | 0 | 0.00 | 29 | 3 | 10.34 |
| 14 | 20 | 21 | 2 | 4.88 | 0 | 0 | 0 | 0.00 | 0 | 0 | 0 | 0.00 | 0 | 0 | 0 | 0.00 | 41 | 2 | 4.88 |
| 15 | 15 | 4 | 2 | 10.53 | 0 | 0 | 0 | 0.00 | 0 | 0 | 0 | 0.00 | 4 | 11 | 0 | 0.00 | 34 | 2 | 5.88 |
| 16 | 18 | 10 | 3 | 10.71 | 0 | 0 | 0 | 0.00 | 0 | 0 | 0 | 0.00 | 15 | 25 | 2 | 5.00 | 68 | 5 | 7.35 |
| 17 | 18 | 17 | 2 | 5.71 | 8 | 7 | 0 | 0.00 | 18 | 69 | 14 | 20.29 | 4 | 8 | 0 | 0.00 | 149 | 16 | 10.74 |
| 18 | 12 | 12 | 1 | 4.17 | 6 | 3 | 1 | 33.33 | 3 | 31 | 6 | 19.35 | 37 | 0 | 0 | 0.00 | 104 | 8 | 7.69 |
| 19 | 14 | 6 | 0 | 0.00 | 2 | 4 | 0 | 0.00 | 0 | 7 | 0 | 0.00 | 16 | 37 | 0 | 0.00 | 86 | 0 | 0.00 |
| 20 | 1 | 1 | 1 | 50.00 | 9 | 40 | 3 | 7.50 | 0 | 1 | 0 | 0.00 | 14 | 11 | 0 | 0.00 | 77 | 4 | 5.19 |
| 21 | 0 | 3 | 0 | 0.00 | 3 | 11 | 0 | 0.00 | 0 | 0 | 0 | 0.00 | 0 | 0 | 0 | 0.00 | 17 | 0 | 0.00 |
| 22 | 0 | 0 | 0 | 0.00 | 0 | 0 | 0 | 0.00 | 0 | 0 | 0 | 0.00 | 0 | 0 | 0 | 0.00 | 0 | 0 | 0.00 |
| 23 | 0 | 0 | 0 | 0.00 | 0 | 0 | 0 | 0.00 | 0 | 0 | 0 | 0.00 | 0 | 0 | 0 | 0.00 | 0 | 0 | 0.00 |
| TOT | 117 | 128 | 17 | 6.94 | 28 | 65 | 4 | 4.30 | 21 | 108 | 20 | 18.52 | 89 | 36 | 2 | 1.60 | 649 | 43 | 6.63 |

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

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*⁴. 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. Sixty percent (3/5) were male.

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

On 5 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.

4 Outbreak control task force

Two Cholera Treatment Centers (CTC) in Mogadishu have been closed: **MSF-S** closed the Forlanini CTC on 3 June and will monitor the situation from the MSF health centre in Yaqshid to ensure all severe cases are referred to Banadir and Hayat hospitals. **ACF** closed their CTC on 4 June, and will continue chlorinating the 326 wells in Mogadishu until end June 2007.

Banadir hospital reports a significant decrease in the number of AWD cases, but is still facing a shortage of medical supplies. **ACF** provided ringer lactate to Banadir hospital. Gedo Health Consortium (**GHC**) is closing the CTC in Galbahare following the decrease of cases.

UNICEF provided a submersible pump to Banadir water well. Somalia Public Health Professional Association (**SOPHPA**) trained 144 IDPs in Mogadishu on hygiene and sanitation thanks to financial support from UNICEF.

The Somali Red Crescent Society (**SRCS**) closed the Oral Rehydration Therapy (ORT) corners on 10 June 2007 due to a significant decrease in the number of AWD cases.



WHO Wajid team inspecting water drinking sources as a part of monitoring the ongoing chlorination activities

⁴ 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.

In Bakool region, **ACF** stopped water chlorination in Burdhuhunle on 14 May and in Elbon on 28 May. ACF is currently conducting hygiene education to increase awareness of AWD prevention to the communities.

WHO paid several monitoring visits to Burdhuhunle and Elbon near Wajid town. In Burdhuhunle, World Vision International (**WVI**) runs 3 health posts all coping with shortage of drugs. There is a need to rehabilitate several of the hand dug wells and water catchments, as well as further health education for the community and capacity building for health workers.

Berdere Water Committee continues to chlorinate water for 673 households. **CCC** carried on with community mobilization and sensitization on AWD in Baidoa town and 15 villages in Bay district. Radio messages through **Warsan radio** station in Baidoa on cholera prevention are ongoing. The Somalia Association for Rehabilitation and Development (**SARD**) is chlorinating 205 wells in Baidoa and Burhakaba areas. **Mumin Global** completed the extension of the water supply to the Baidoa CTC in Bay Regional Hospital. The NGO also continues to provide water supply services to 350 households in Baidoa town, while **UNICEF** provides chlorine for chlorination.

The Society Development Initiative Organization (**SDIO**) is chlorinating the water supply in Sakow, Middle Juba, while the Baidoa Water Agency (**BWA**) is chlorinating the water wells in Baidoa town reaching 500 wells.

5 Other disease outbreaks

Measles

During the latest polio National Immunization Days conducted in Central/South Somalia from 3 to 6 June 2007, vaccinators reported a total of 43 suspected measles cases. The majority of the suspected measles cases (14) were reported from Farjano, followed by Shaqajaha (9). Suspected measles cases were also reported from Caalaley, Heloshid, Gudkibir, Tanasheley Ceeladde and Lebiburaale villages. Sixteen percent (7/43) of the cases were detected in less than one year olds.

WHO conducted a rumor verification mission into the increased number of suspected measles cases in Wajid. As EPI outreach was suspended since March 2007 and population movements continue, the risk of spreading of measles is increasing. A total of 4 cases were clinically diagnosed as measles, of which 3 were already under treatment in the **ACF** Therapeutic Feeding Centre (TFC). In order to prevent further cases of measles, a vaccination campaign needs to be conducted as soon as possible.

Whooping cough

ACF also reported 3 suspected cases of whooping cough under treatment in the TFC. ACF screening teams had already reported suspected whooping cough cases in Bakar Wein village early June.