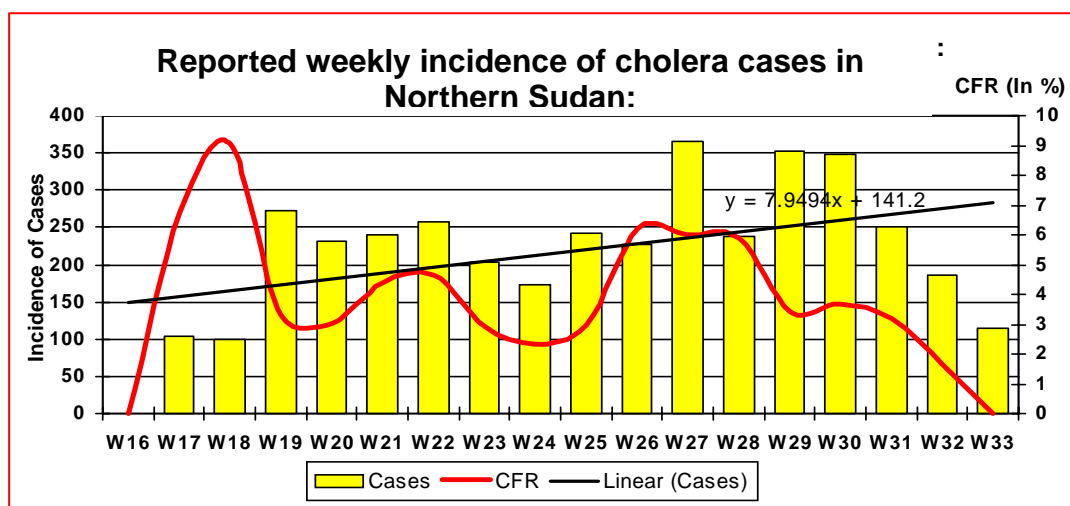


Cholera Update Northern Sudan
21st August 2006

1. Overview

Between 21st April and 18th August 2006, the Federal Ministry of Health (FMOH) has reported a total number of 6,254 cases including 204 deaths with a case fatality rate (CFR) of 3.2% from cholera in Northern Sudan. A summary of the current situation is as follows:

- Fourteen out of fifteen states in Northern Sudan are currently reporting cases of Cholera. During the past week, two new states- West Darfur and North Darfur have reported cases of cholera. While cases reported from West Darfur have been laboratory confirmed as *Vibrio Cholera 01 sero type inaba* the laboratory report of stool samples collected from North Darfur is still awaiting;
- Majority of cases (24%) have been reported from North Kordofan state followed by Khartoum state (15%) and White Nile state (13%)
- The overall case fatality rate for Northern Sudan during this reporting period (21 April-18 August 2006) remains at 3.2%. The death rate broken down by states range between 1 and 5%
- The National Public Health Laboratory (NPHL) of the Federal Ministry of Health (FMOH) has confirmed the isolation of *Vibrio cholerae 01 serotype inaba* from over 40 percent of stool samples collected so far from these reported cases of cholera;
- The FMOH has formed a cholera task force to coordinate the overall response operations to this outbreak. WHO is a member of this task force;
- Although there has been some decrease in number of reported cases from Northern Sudan and a decline in the overall case fatality rate recently, new cases of cholera have emerged in new places (West and North Darfur) indicating the **urgent need to scale up the preventive and public health response efforts to control the spread of the disease to new areas and prevent more deaths from this outbreak.**



2. Situation assessment

The current outbreak wave started on the 21st April 2006 in Khartoum states and then rapidly spread to other neighbouring states of Khartoum in Northern Sudan. Seasonal factors such as the rainy season along with population movements between the states might have contributed to this spread amongst the vulnerable populations who are living in unsanitary conditions. After having been absent for several years, cholera re-emerged in Northern Sudan in 2006 and although the death rate peaked over 9 % during the initial weeks of the outbreak, there are visible signs that the death rate trend has declined from week no 29. During the past week (week no 33), the death rate dropped to 0 percent but as cholera emerged in new areas, the death rate was pushed up week no 21, 22 and 26.

Cumulative incidence of Cholera reported In northern Sudan 21 April - 18 August 2006

| State | Date of reporting of "first/index" case | Cumulative number of cases reported till 18 August 2006 | Cumulative number of deaths reported until 18 August 2006 | Overall CFR |
|--|---|---|---|-------------|
| Khartoum | 21/04/2006 | 966 | 41 | 4.2% |
| North Kordofan | 25/04/2006 | 1502 | 47 | 3.1% |
| White Nile | 17/05/2006 | 782 | 21 | 2.6% |
| South Darfur | 30/05/2006 | 768 | 21 | 2.7% |
| South Kordofan | 02/06/2006 | 461 | 16 | 3.4% |
| River Nile | 14/05/2006 | 565 | 20 | 3.5% |
| Al Gezira | 30/06/2006 | 118 | 5 | 4.2% |
| Gedaref | 08/07/2006 | 549 | 7 | 1.2% |
| Kassala | 29/06/2006 | 419 | 20 | 4.7% |
| Other states (Northern Blue Nile and Red sea states) | | 124 | 6 | 4.8% |
| Total | | 6254 | 204 | 3.2% |

1. Some cases have been reported retrospectively and accordingly the FMOH has revised the cumulative number of cholera cases.
2. Cholera cases reported from West and North Darfur have not yet been included in the reporting system of FMOH. These reported cases will appear in the FMOH's reporting system from week no 34

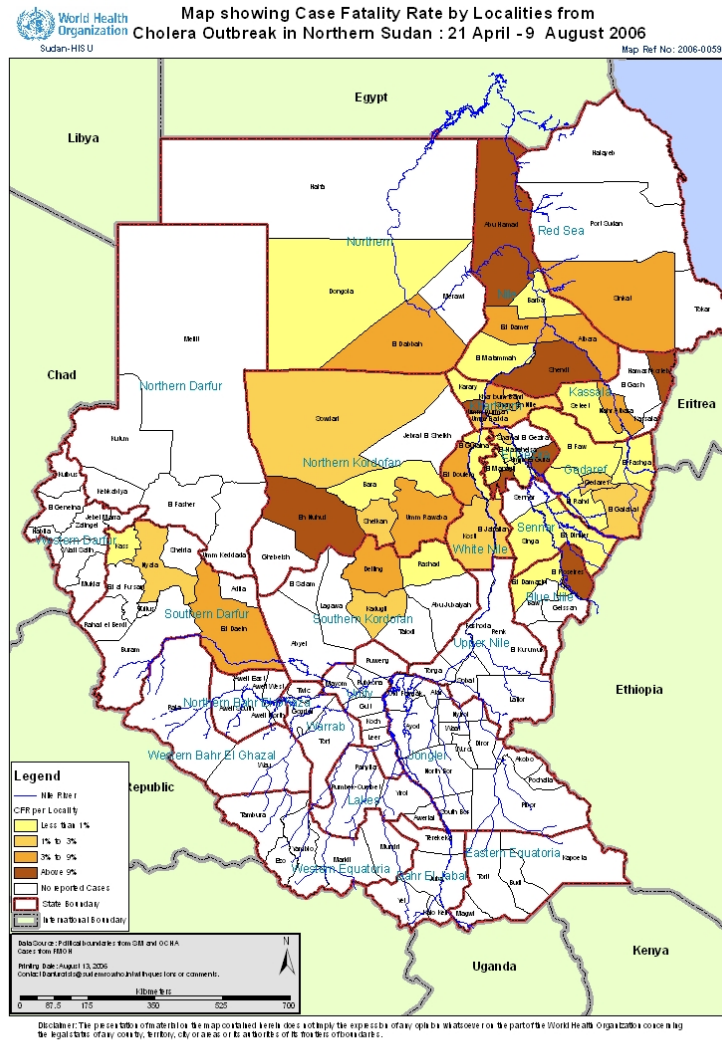
The number of reported cholera cases have progressively been decreasing from week 30 in which a total of 349 cases were reported. This week (week 33) only 114 cases were reported from Northern Sudan. While the trend suggests that the reported cases would decline in states where the transmission is still continuing, the cases are likely to increase in those states (notably West Darfur and North Darfur) where the outbreak has just begun.

3. WHO's Response

WHO works closely with the FMOH, providing technical support for epidemic risk assessment as well as for control and management of this ongoing cholera outbreak. In particular the following type of assistance has been extended:

- **Surveillance:** A surveillance system for cholera has been set up at the Federal level as well as at the state level with automated report generation and mapping facilities;
- **Case management:** Apart from distributing case management guidelines and treatment protocol at the Cholera Treatment Centre, eleven pre-packaged cholera kits have been

sent to the affected states through the FMOH which are adequate to treat over 3000 cases using a standard case management guideline;



- **Laboratory support:** Field laboratories have been set up at seven affected states which can now detect and confirm *Vibrio Cholera* microbiologically. In addition, the capacity of NPHL of Khartoum has been strengthened for molecular analysis of *Vibrio Cholera* using real time PCR;
- **Assessment and monitoring:** Two international environmental health engineers have completed a mission in the affected areas, assessing the environmental sources of contamination responsible for the recent cholera outbreak. In addition, the quality of the ongoing response to the outbreak is being evaluated real-time through the use of benchmarks and indicators to gather information on the transmission pattern of the current outbreak.