

WHO Representative's Office in Iraq

Daily Situation Report on Cholera Outbreak in Northern Iraq

Sitrep number: 6; Date of Reporting: 11th of September 2007

1. OVERVIEW

As of 10th of September 2007, twelve districts of Northern Iraq have reported laboratory-confirmed cases of cholera putting over 2.8 million people exposed to public health risk from this ongoing outbreak. Five out of eleven districts of Sulaymaniyah province, all five districts of Kirkuk province and two out of seven districts of Erbil province are now affected by this cholera outbreak in Northern Iraq. This outbreak, first unfolded in Kirkuk province on 14 August spread to Sulaymaniyah province on 23 August and then to Erbil province on 6th of September, so far, caused 10 deaths and continue to be of major public health concern in the region.

From 23 August to 10 September 2007, the cumulative number of cases of acute watery diarrhoea reported from five out of eleven districts of Sulaymaniyah province stands at 6,142 including 9 deaths with an overall case fatality rate of 0.14%. Of these reported cases, *Vibrio cholerae* has been laboratory confirmed in 338 stool specimens.

While during the period from 29 July to 2 September 2007, the health authority of Kirkuk province reported a total of 3,728

cases of acute diarrhoeal disease including 1 death (CFR: 0.026%). The first index case of cholera, confirmed by laboratory test, was reported from Kirkuk province on 14 August 2007. So far, from the Kirkuk province, a total of 412 stool specimens were tested positive for *Vibrio cholerae*.

On 6th of September, the first laboratory-confirmed case of cholera was reported for the first time from one of the districts (Erbil centre) of Erbil province. Later on, laboratory confirmed cases were also reported from Koisnjaq district. So far, 23 stool specimens collected from these two districts of Erbil province have tested positive for *Vibrio cholerae* serogroup 01 Inaba. Although cumulative number of cases of acute watery diarrhea since the first index case of *Vibrio cholerae* was laboratory confirmed is still not available, the Communicable Disease Control unit of Erbil Directorate of Health reported 3,406 cases of diarrhoeal disease with no death from the entire province between 1st of September and 10th of September, 2007.



Table-1: Cases of AWD and diarrhoeal diseases reported from three provinces of Northern Iraq

Province	No of districts affected	Date outbreak started	No of AWD/DD cases reported	No of deaths reported	CFR (%)
Sulaymaniyah	5	23/08/07	6,142	9	0.14
Kirkuk	5	14/08/07	3,728	1	0.02
Erbil	2	06/09/07	3,406	0	0

Note: The time period of these reported cases varies from one province to another. For details please refer to the text above.

2. PATTERN OF TRANSMISSION IN SULAYMANIYAH PROVINCE

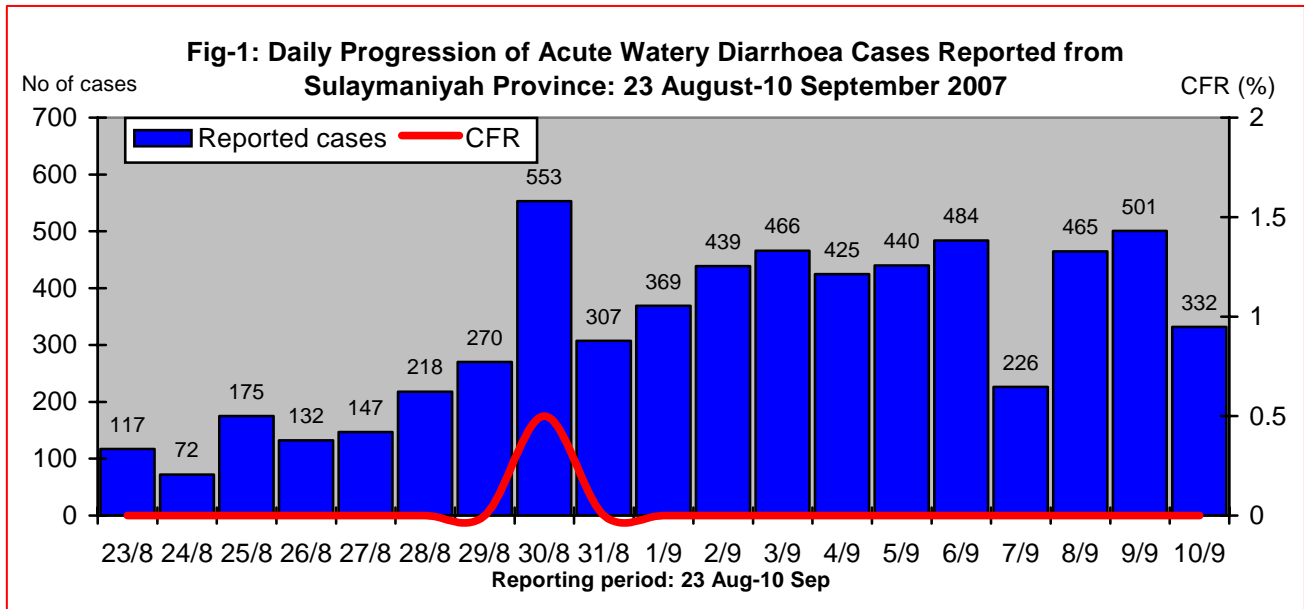
As of 10th of September, the outbreak, since reported for the first time in the province on 23 August, has spread to five out of eleven districts in the province (Please see the map above) exposing over 1.1 million people living in this province to this epidemic risk. As accumulation of surveillance data from the field shows signs of improvement, the overall epidemiological pattern of the outbreak is gradually becoming more conspicuous.

The daily progression of cases, as plotted in figure-1, shows that barring some inadequacies and incompleteness in reporting during the earlier part of this outbreak in Sulaymaniyah province, the number of cases are now gradually increasing and possibly after 1st of September, the reported cases appear to come in a wave which seems to be more uniform and consistent with any outbreak revealing signs of improvement of surveillance system in the province. The sudden drop in cases reported on 7th of September may be attributed to the weekly holiday (Friday) in the province wherein reports were, possibly, not available from all health centres.

Although the outbreak, as illustrated in figure-1, has not shown any definite peak, it is expected that with the improvement of surveillance system, already visible, the transmission pattern of this outbreak could be better explained.

It is also unclear (because of lack of representative data) whether the cases are increasing or declining in any particular district compared to other affected districts in the province. Therefore, due to lack of comparable data, the epidemiological trend of the prevailing situation needs to be interpreted with caution.

The majority of cases reported from Sulaymaniyah province belong to the over 5 year age group. Comparable data on distribution of reported cases by two broad age groups (Under 5 and over 5 year age group), available since 29th of August, reveals that between 29 August and 8 September 2007, a total of 3,930 cases of acute watery diarrhoea were reported in the above 5 year age group from Sulaymaniyah province compared to only 514 cases reported during the same period in the below 5 year age group.



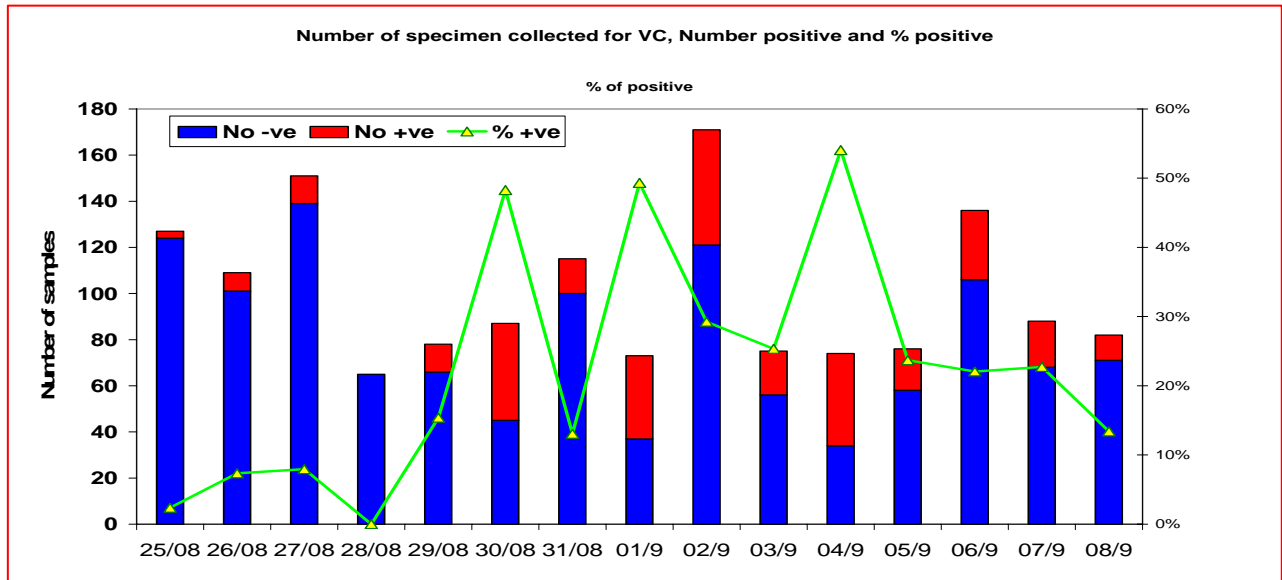
Source: Daily report of Ministry of Health, Baghdad.

3. POSITIVITY TREND OF *VIBRIO CHOLERA*E IN SULAYMANIYAH PROVINCE

Since the outbreak was confirmed by laboratory test, adequate number of stools samples are still being collected from the suspected cases as part of laboratory based surveillance to monitor the microbial sensitivity pattern. The strain of *Vibrio cholerae* serogroup 01 Inaba isolated from Sulaymaniyah province is

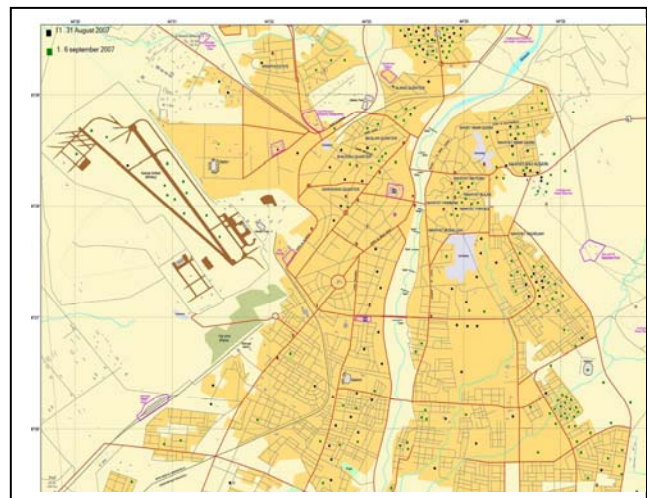
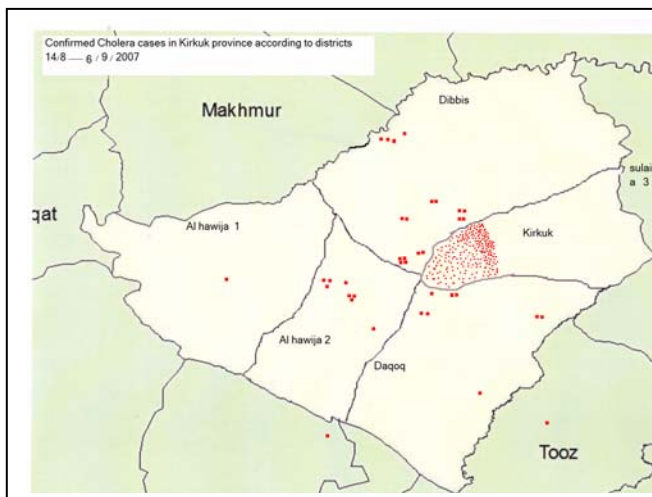
shown to be sensitive to all commonly used antibiotics except Cotrimoxazole to which the strain has been found to be resistant.

Both the number and the ratio of positive samples to the total number of stool samples collected from the suspected cases are gradually decreasing in recent time (as shown in the figure below). For example, during the initial period of the outbreak (25th to 28th of August), the positivity rate of detection of *Vibrio cholerae* from the stool samples was in the range of 2 to 8 percent which increased to 25 to 50 percent during the period from 01 to 05 September and thereafter, from 06 September onwards, the positivity rate has decreased to a level between 15 to 25 percent again.



4. SITUATION IN KIRKUK PROVINCE

The epidemiological field investigation conducted in Kirkuk province identified over 90% of laboratory-confirmed cases of *Vibrio cholerae* being concentrated in Kirkuk district alone (Please see the geographic distribution of these cases in the map above). The remaining laboratory confirmed cases have been found to be distributed in Al Dibis (4%), Daquq (2%) and in Al Hawija 1 and Al Hawija2 (2% each) districts. Within the Kirkuk district, majority of these cholera cases are, again, found to be clustered in Kirkuk city.



Mapping of these cases have allowed the provincial health authority to target these areas for specific cholera control measures (chlorination, case finding, intensifying health education, etc) in order to stop the transmission of cholera in the province.

The classification of age group of these 412 laboratory confirmed cases of *Vibrio cholerae* showed that over 73 percent of these cases were between 15 and 45 years of age (63%) and over 45 years of age (11%). Most of these (61%) were males.

Another field observation from Kirkuk province has revealed that a high number of positive stool specimens collected from the out-patients of Azadi hospital (the main hospital in the province) were, possibly, because the toilet from where the patient's stool specimens used to be collected were contaminated with human excreta and could possibly be the source of spreading infection as well. Appropriate corrective measures have since been taken in the hospital.

5. SITUATION IN ERBIL PROVINCE

Apart from Erbil centre and Koisanjaq district, no other district in the province has, so far, reported any laboratory-confirmed case of *Vibrio cholerae*. The provincial health authority has intensified preventive measures to limit further spread of the outbreak to other non affected areas. An operation room has been set up with the local governor in the chair to coordinate overall operational response to this outbreak. All control measures have been intensified across the province. Epidemiological field investigation has also been initiated by the health authority

6. SITUATION IN REST OF IRAQ

Apart from three provinces of Northern Iraq, no other districts of any province of Iraq have reported any laboratory-confirmed case of cholera. Epidemic preparedness for cholera has been geared up in all neighbouring districts of the cholera affected provinces and as part of this preparedness measures, surveillance system for diarrhoeal disease, in general, has been strengthened in all these neighbouring districts which are considered to be at high risk for spread of this outbreak. A laboratory based surveillance system has been established in all these districts and stool samples are being collected regularly from suspected cases and laboratory tested in order to detect any cholera case early and provide an early alert to the health authority of an impending outbreak. In addition, a daily reporting system for diarrhoeal diseases has also been introduced in all these potentially high risk districts.

So far, none of these daily reports has suggested any evolving risk. For example, the Salah Eldin province which is geographic proximity to Erbil province has reported a total number of 242 cases of diarrhoeal disease in last 24 hours of which 40 cases were admitted in different hospitals of the province. Of these, 115 cases were sampled but no stool sample tested positive for *Vibrio cholerae*. Similar efforts are underway in rest of Iraq and daily reports and the laboratory result of stool samples are analyzed regularly.
