



Weekly Situation Report on acute watery diarrhoea and Cholera in Iraq

Sitrep no. 48, week 05, ending 03 February 2008

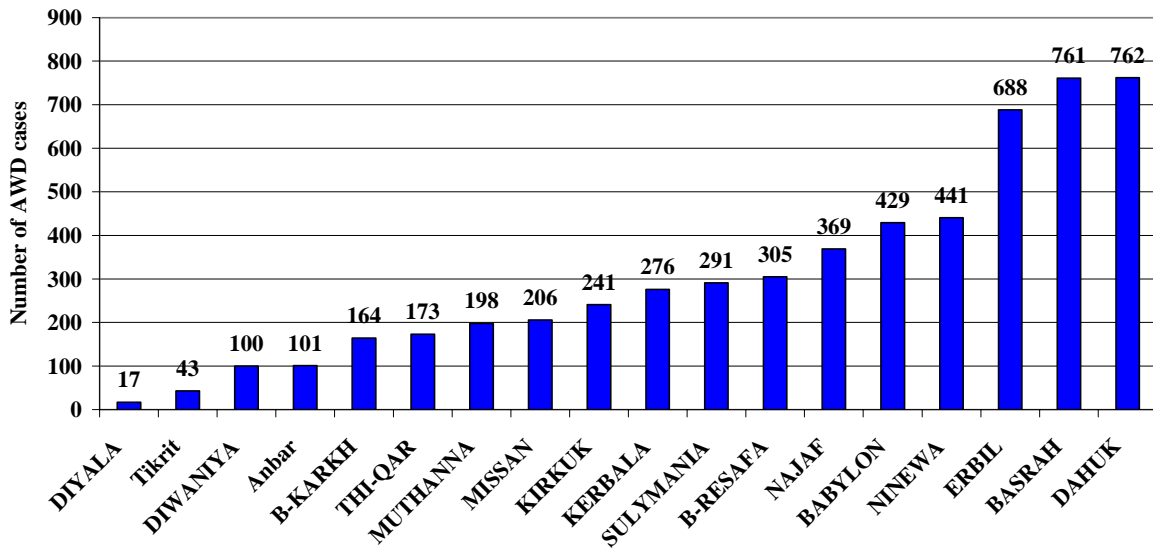
1. ACUTE WATERY DIARRHOEA- LABORATORY-CONFIRMED V. CHOLERA (CHOLERA) CASES REPORTED DURING: 28 JAN - 03 FEBRUARY 2008 (WEEK 05):

- This week, all 19 Directorates of Health (DoHs) submitted reports, Anbar DoH report was limited to Falluja hospital; Wassit provinces did not report data on number of stool samples submitted for VC testing.. Data received from Sulumania & Dialia DOHs, lacks monitoring of completeness of reporting component.
- In total, 5443 acute watery diarrhoea cases were reported, but none of the 2797 samples cultured were positive for cholera. (Table 1).
- Baghdad: Reporting is gradually improving from both sides of the province.
- Basra: Basra remains one of the most regular reporting DoHs. This week, 761 cases of acute watery diarrhea were reported. None of the 586 stool samples tested were culture-positive for cholera.
- Kirkuk: 241 cases of acute watery diarrhea were reported. None of the 67 samples cultured were positive for cholera. For the 7th week in a row no cholera case has been reported from Kirkuk.
- Sulaymaniyah: This week, 291 acute watery diarrhoea cases were reported. None of the 29 samples cultured were positive for cholera.
- Mosul: 441 Diarhea cases reported, none of the 270 stool samples cultured were positive for cholera.
- Najaf: 369 Diarhea cases reported, none of the 346 stool samples cultured were positive for cholera.
- Diyala: 17 Diarhea cases reported, none of the 14 stool samples cultured were positive for cholera
- Missan: 206 cases of acute watery diarrhea were reported. None of the 128v samples cultured were positive for cholera.
- Thiqar, Muthana, Tikrit and Babylon: 843 cases of acute watery diarrhea were reported. None of the 674 samples cultured were positive for cholera.
- **Total new confirmed cholera cases: 0**

Table (1) Number of acute watery diarrhoea cases reported, stool samples tested, and % acute watery diarrhoea tested for cholera over time (2008)

International Week	Acute watery diarrhea cases	Stool samples tested for cholera	% of diarrhea tested for cholera
Week 1 ending 06/01	3204	2190	66
Week 2 ending 13/01	4808	2499	52
Week 3 ending 20/01	4208	2811	67
Week 04 ending 27/01	5078	2822	56
Week 05 ending 03/02	5443	2797	51
Total	22741	13119	58

Fig. 1 Reported AWD by province week 5 ending 03 Feb.



During the first 5 weeks of 2008:

- The 19 Directorates of Health reported 22741 acute watery diarrhoea cases. None of the 13119 stool samples tested (58%) cultured were positive for *vibrio cholerae*.
- 5084 water samples were tested for the presence of fecal contaminants. There were 170 samples (3.3%) found to be contaminated with fecal material. However, no report was received from Anbar, Diyala and Karbala DoHs.

Fig. 2 Number of water samples tested for fecal coliforms by DoH, % that failed the test, first 5 weeks, 2008

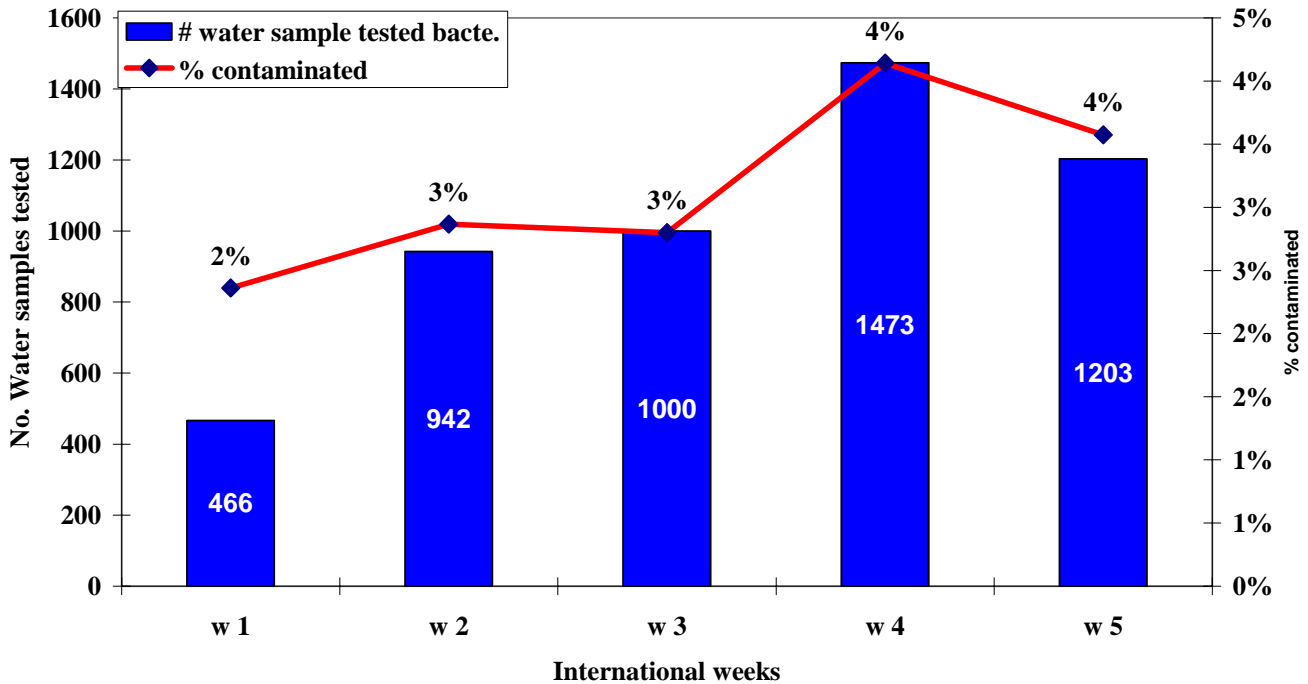


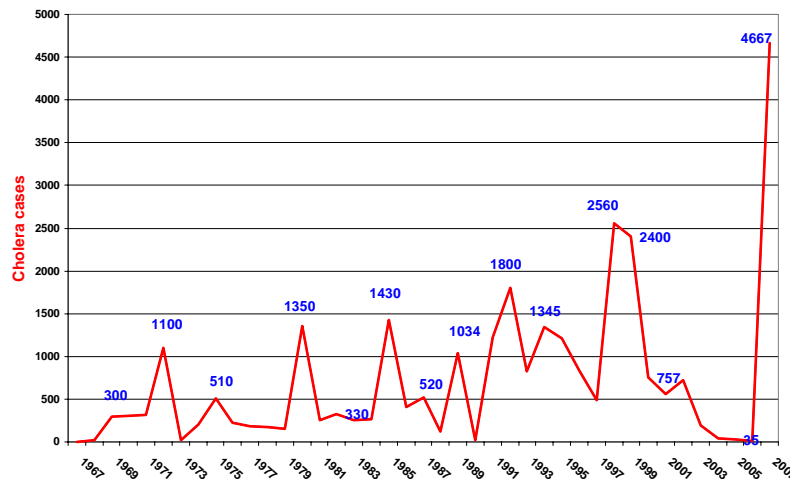
Table (4). Laboratory-confirmed cholera cases—Iraq, 14/08–03/02/2008

Province	No. districts affected	Date first case reported	Date most recent case reported	No. deaths reported	No. laboratory-confirmed cholera cases
Kirkuk	5	14/08/2007	1/12/2007	5	3007
Sulaymaniyah	13	23/08/2007	17/11/2007	14	1238
Erbil	6	05/09/2007	22/11/2007	0	275
Dahuk	4	07/09/2007	28/10/2007	0	6
Tikrit	3	12/09/2007	7/10/2007	0	5
Ninewa	3	15/09/2007	15/11/2007	1	5
Baghdad	5	19/09/2007	13/12/2007	3	138
Basra	2	19/09/2007	2/10/2007	0	2
Wasit	1	20/09/2007	20/09/2007	0	3
Anbar	1	03/10/2007	3/10/2007	1	2
Diyala	3	03/10/2007	3/10/2007	0	15
Total	46			24	4696

2. PATTERN OF CHOLERAS TRANSMISSION IN Iraq

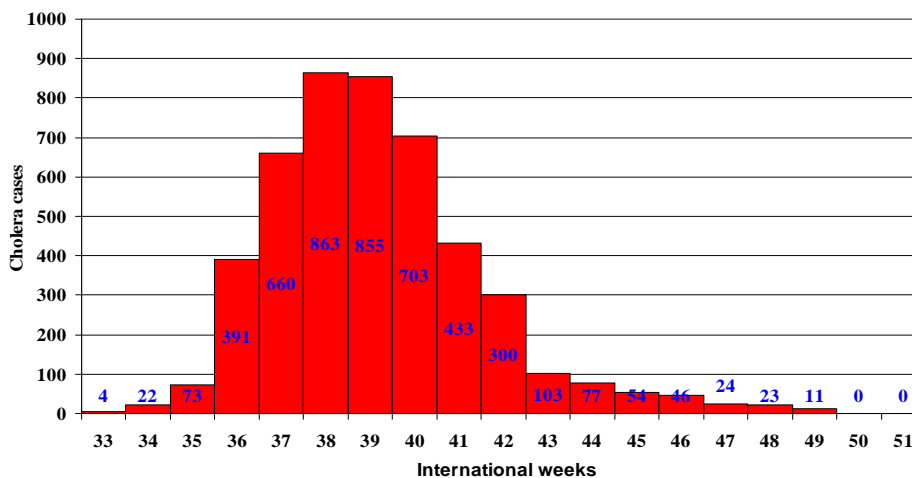
- The first 6 cholera pandemics were caused by 01 biotype *V. cholerae* classical.
- The current seventh pandemic is caused by 01 biotype *V. cholerae* Al Tor.
- Within the first decade of its origination in Indonesia, the 7th pandemic spread through out Asia and the Middle East.
- The 7th pandemic strain first appeared in Iraq in 1966.
- Since then Iraq witnessed an outbreak every 4-5 Yrs. (Fig 1).
- As reflected in Fig. 3 the number of reported cholera cases in each outbreak have been on the increase over the years. the last (2007) cholera outbreak is considered the largest recorded outbreak in the history of Iraq.

Fig(3) Reported cholera cases Iraq, 1967-2007



The first cholera case in the last outbreak was reported from Kirkuk province on the 14th of August 2007, followed by rapid spread to Sulaymaniyah and Erbil; by the 3rd of October 2007, 46 districts, 28 in northern Iraq and 18 in the center and south have reported laboratory-confirmed cases of cholera. In northern Iraq, this includes 13 out of the 14 districts of Sulaymaniyah Governorate, all 5 districts of Kirkuk Governorate, 6 of the 7 districts in the Erbil Governorate and 4 districts in Dahuk. As for the center and south, the affected districts are: 5 districts in Baghdad, 3 districts in each of Tikrit, Mosul and Diyala, 2 districts in Basra as well as one district in each of Wassit and Anbar (above map).

Fig. 4- Confirmed cholera by International weeks, Iraq, up to week 51 ending 30/12/07

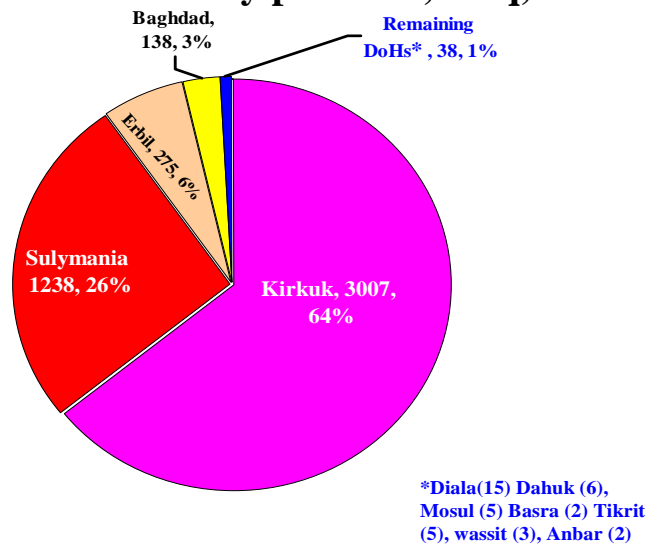


As shown in figure 4; the outbreak peaked in weeks 38&39 followed by a sustained stepwise decrease in reported cases. The last cholera case was reported from Baghdad on the 13th of December 2007. This sustained decrease can be attributed to the comprehensive public health measures taken, including strict attention to water chlorination, social mobilization and

public awareness campaigns, however, the drop in the weather temperature to below 15 degrees Celsius must have played a significant role in halting this outbreak.

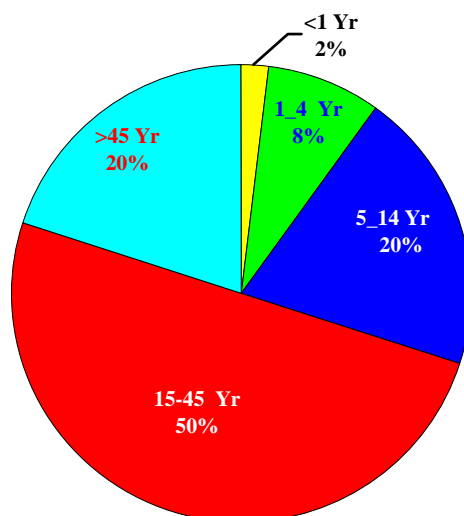
The results of stool testing for *Vibrio cholerae* obtained in the Provincial Public Health laboratories in Sulaymaniyah, Kirkuk, Erbil and The Central Public Health Laboratory in Baghdad were confirmed by the Reference LAB of the U.S. Naval Medical Research Unit No. 3 (NAMRU-3), in Cairo. Results of the provincial, Country and reference laboratory all confirmed that the 2007 outbreak was primarily caused by *V. cholerae* O1, biotype El Tor, Inaba. The organism is sensitive to commonly used antibiotics. Less frequently, *V. cholerae*, O1, biotype El Tor Ogawa also was detected. The isolated strains were found resistant to trimethoprim-cotrimoxazole but remain sensitive to tetracycline and chloramphenicol. Based on several independent tests examining the molecular structure of the bacterium, *V. cholerae* isolates from the recent outbreak appear to be indistinguishable to isolates from the outbreak of 1999 and 2000; this reinforces the idea that cholera is endemic in Iraq, and under certain circumstances, can reach epidemic proportions.

Fig. 5 Cholera cases by province, Iraq, 2007



The cumulative number of laboratory confirmed cholera cases reported from Iraq since 14 August 2007 and up to 13 December 2007 reached 4696 cases. The percentage distribution of these cases by province is as follows: 64%, 26%, 6% and 3% of cholera cases were reported from Kirkuk, Sulaymaniyah, Erbil and Baghdad respectively. The remaining 38 cases (1% of all cholera cases in Iraq) were reported from the provinces of Diala, Dahuk, Tikrit, Wassit, Mosul and Basra..

Fig. 6 Distribution of cholera cases by age group, Iraq, 2007



As reflected in Fig. (6) 50% of cholera cases occurred among 15-45 year olds and 20% among 5-15 year olds, 9% of cases were reported among children below 5 years of age. The distribution of cases by sex show slight increase in the proportion of cases among females 53% compared to 47% among males. The distribution of cases by age and sex suggests that most of the infection was acquired within the households and contaminated water seem to have played a major role in this outbreak..

One of the important features of this outbreak is that most of the cases seen have mild to moderate signs and symptoms. The traditional signs and symptoms of severe dehydrating diarrhoea were seen only very occasionally among 4696 cumulative laboratory-confirmed cholera cases; only 24 deaths were reported, and most of the deceased had other serious underlying morbidity that contributed to their deaths.

WHO Representative for Iraq is now in Baghdad where she is conducting intensive advocacy meetings and discussion with UNCT and senior policy makers in ministries of Health, Planning, Higher Education, Environment and Ministry of Municipalities' for resource mobilization as well as augmenting early preparedness and response activities for a possible outbreak in the upcoming spring.