

**WHO Representative's Office in Iraq**

**Weekly Situation Report on Cholera in Iraq**

Sitrep no. 30; Date of Reporting: 28 October 2007 (week 43).

**1. NEW LABORATORY-CONFIRMED CHOLERA CASES REPORTED DURING 22-28 OCTOBER 2007 (WEEK 43):**

- a. Kirkuk: 28 (of 479 samples tested) 6%
- b. Sulaymaniyah: 39(of 660 samples tested) 6%
- c. Erbil: 24 (of 487samples tested) 5%

**2. OVERVIEW**

As of 28 October 2007 (week 43), 28 districts of Northern Iraq and 16 districts in the south and centre have reported laboratory-confirmed cases of cholera. In northern Iraq, 13 out of the 14 districts of Sulaymaniyah governorate, all five districts of Kirkuk governorate, 6 of seven districts of Erbil governorate, 4 districts in Dahuk. As for the centre and south; the affected districts are: 3 districts in each of Baghdad; Tikrit; Mosul and Diyala, 2 districts in Basra as well as one district in each of Wassit, and Anbar. The results of the samples of *vibrio cholerae* isolates from Sulaymaniyah were received by the U.S. Naval Medical Research Unit No. 3 (NAMRU-3) laboratory, Cairo. NAMRU-3 results confirmed Sulaymaniyah- and Central Public Health Laboratory (CPHL) results, showing *vibrio cholerae* O1 El Tor Inaba.

99% of Iraq's cholera cases were reported from Kirkuk, Sulaymaniyah and Erbil, northern Iraq. Sporadic cases with definite history of travel and food consumption in Kirkuk were reported from Tikrit province; however, isolated cases with no epidemiological link to northern Iraq were also confirmed in Mosul, Wassit, Baghdad, Anbar and Basra.

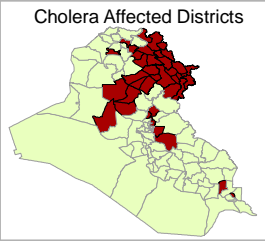
One of the important features in this outbreak is that most of the cases seen have mild to moderate signs and symptoms. The traditional signs and symptoms of severe dehydrating diarrhoea were seen only very occasionally, out of the 4,467 laboratory-confirmed cholera cases; 22 deaths were reported, most of the deceased had other, serious underlying morbidity.

Specific control measures to contain this ongoing outbreak and limit its spread to other areas have been reinforced by the concerned governmental departments of the affected provinces, with technical support from WHO. In non-epidemic provinces, during the period 14 August - 28 October 2007, 36 cholera cases were discovered.

**Table 1: Laboratory confirmed cholera Cases, Iraq, 14/08-28/10/2007**

Province	No. districts affected	Date first case reported	No. deaths reported	No. laboratory-confirmed cholera cases
Kirkuk	5	14/08/2007	5	2,969
Sulaymaniyah	13	23/08/2007	14	1,227
Erbil	6	05/09/2007	0	235
Dahuk	4	07/09/2007	0	6
Tikrit	3	12/09/2007	0	5
Mosul	3	15/09/2007	1	3
Baghdad-Resafa	3	19/09/2007	1	11
Basra	2	19/09/2007	0	2
Wasit	1	20/09/2007	0	2
Anbar	1	03/10/2007	1	2
Diyala	3	03/10/2007	0	5
<b>Total</b>	<b>44</b>		<b>22</b>	<b>4,467</b>

# Map showing Cholera affected Districts of Iraq, as of 28 October 2007

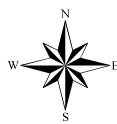
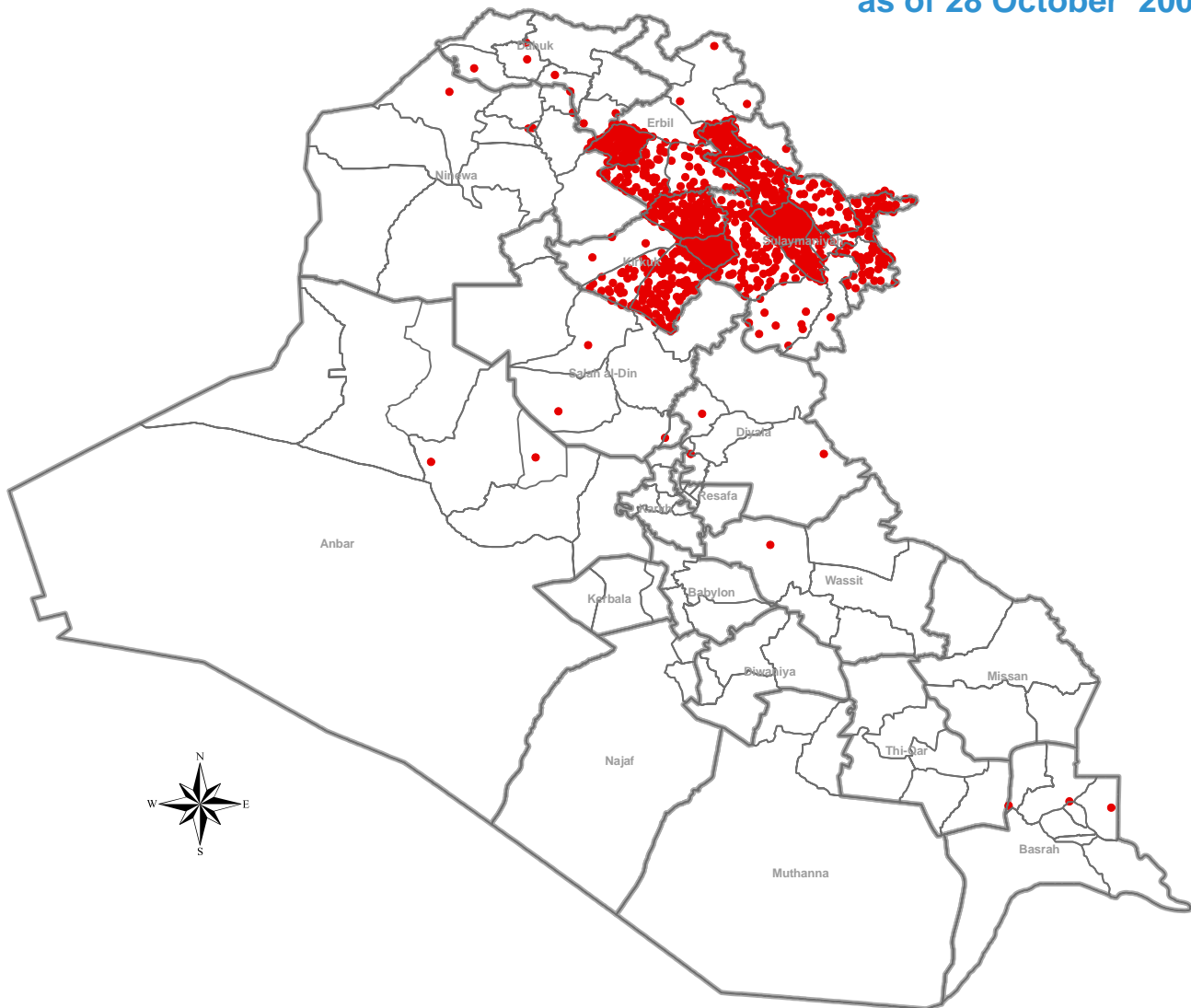


**Legend**

- One confirmed Cholera case
- Governorate boundary

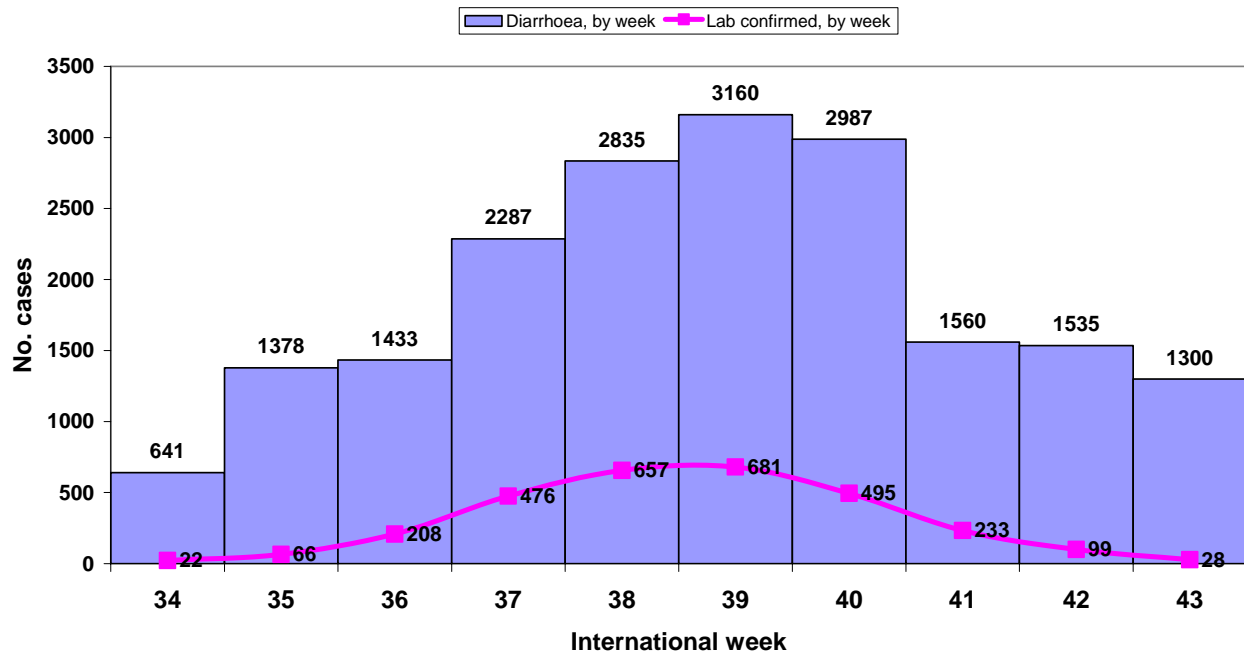
The boundaries and names shown and the designations used on this map do not imply the expression of any opinion whatsoever on the part of the World Health Organization concerning the status of any country, territory, city, or area, or of its authorities, or concerning the delimitation of its frontiers or boundaries. Dotted lines on maps represent approximate border lines for which there may not yet be full agreement.  
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### 3. PATTERN OF TRANSMISSION IN KIRKUK PROVINCE

**Fig. 1. Cases of diarrhoea vs. laboratory-confirmed cholera, by international week, Kirkuk Province, 20/8-28/10/2007**



During 22-28 October 2007 (week 43), 1,300 new diarrhoea cases were reported, 827 (64%) in children under 5- vs. 473 (36%) in 5 years and older; 28 were confirmed cholera-positive among 479 samples tested. Figure 1 shows an 6-fold increases in the number of diarrhoea cases among adults between week 34 and week 40, ending 7 October 2007, followed by a sharp decrease in reported diarrhoea cases in week 41, it must be noted that the last 4 days of week 41 (11-14 October 2007) coincide with the Eid Al Fitr holidays and massive population movement from the city to the rural area; therefore, some of this decrease in diarrhoea, especially among adults can safely be attributed to Eid holidays and population movement from urban to rural areas. However, during the same period there was noticeable improved in quality and quantity of water supply.

Laboratory-confirmed cholera cases have peaked at the level of 722 and 742 during weeks 38 (ending 23 September) and 39 (-30 September). This was followed by a sharp decrease during weeks 40 and 41 in the number of confirmed cholera. We do not know whether this is a real decrease in cholera cases or an apparent decrease due to the new strategy of collecting stools from only 10% of cases, rather than 100% of cases. This new policy was adopted to decrease the load on the laboratory and reduce the probability of contamination. This new policy seems to have been implemented without a similar change in the case definition of confirmed cholera to include all watery diarrhoea cases. The last 4 days of week 41 coincided with the Eid holidays, which might be another important reason for the sharp decrease in cases during this week.

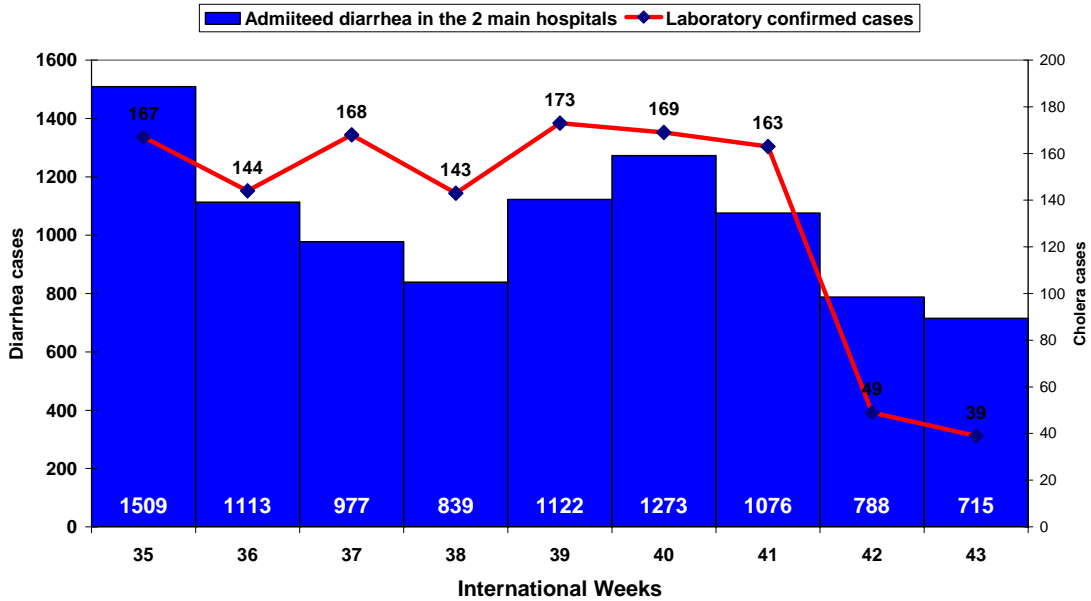
69% of the total confirmed cholera cases reported from Iraq, are from Kirkuk province. 90% of Kirkuk province cases are from Kirkuk district. In order to coordinate the efforts of the different actors, enhance control and case ascertainment, case management and laboratory performance; HE acting Minister of Health sent MoH deputy minister Dr. Isam Mamiq and CDC/Baghdad and Central Public Health laboratory staff on a mission lead the cholera containment activities in Kirkuk.

Monitoring laboratory-confirmed cases, there is 1) a remarkable decrease in positives in Azadi lab during weeks 38-41, 2) a slow decline in Kirkuk PHL, Pediatric hospital, and total province positives, 3) an increase in positives of samples taken at Kirkuk Hospital lab. The authorities in Kirkuk have made the following observations: 1) In Kirkuk city, the highest attack rate was in Arafa while the contamination in the area was the lowest, at the same time, the lowest attack rate in Kirkuk city, was in areas with highest degree of contamination. Therefore in Kirkuk city, other reasons for spread of cholera apart from water contamination

need to be considered; 2) In Dibbis District and at Taza PHCCC, there is correlation between cholera cases and water contamination, attributed to low chlorine level in the water projects, as well as the condition of pipe and storage of drinking water reservoirs.

#### 4. PATTERN OF TRANSMISSION IN SULAYMANIYAH PROVINCE

Fig. 2 Diarrhea admissions in 2 hospitals Vs. total confirmed cholera in the province



During 22-28 October 2007 (week 43), there 49 were confirmed cholera-positive and 3 deaths (14 total since begin of the outbreak); the total number of confirmed cholera cases is 1,227 (figure 2). At the beginning of the outbreak 90% of cases were reported from Sulaymaniyah city, however more cases were gradually been reported from outside the city indicating either spread of the disease to other districts outside Sulaymaniyah city or improved reporting from rural areas as well as relative control inside the city.

Fig. 3 Changing proportion of Cholera cases, Sulymania city Vs. areas outside side the city by week of onset, 26 Aug. to 28 Oct.

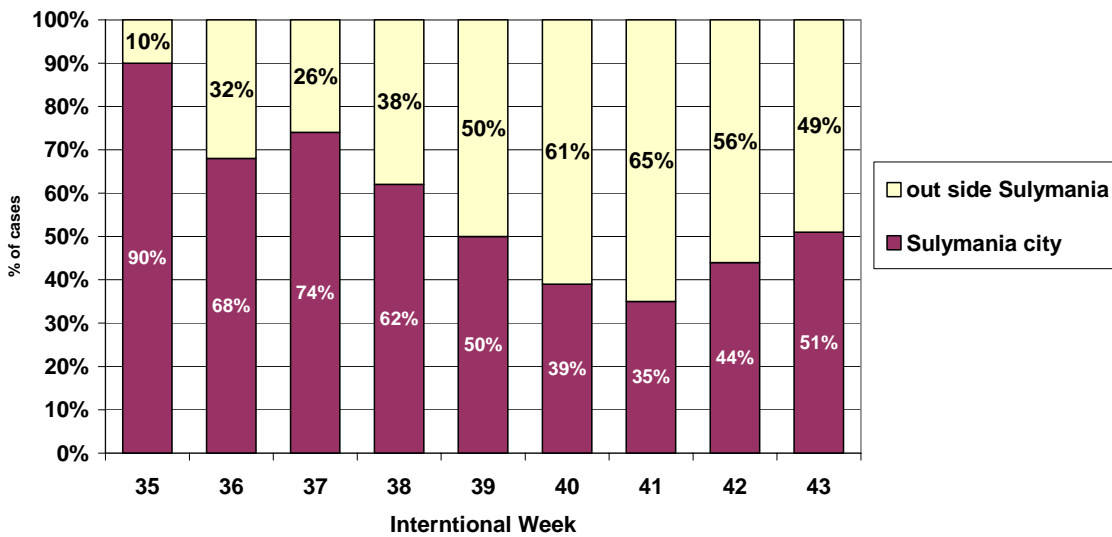


Fig. 4 Diarrhoea cases admitted to the 2 main hospitals in Sulymania town by date of onset, September and October 2007

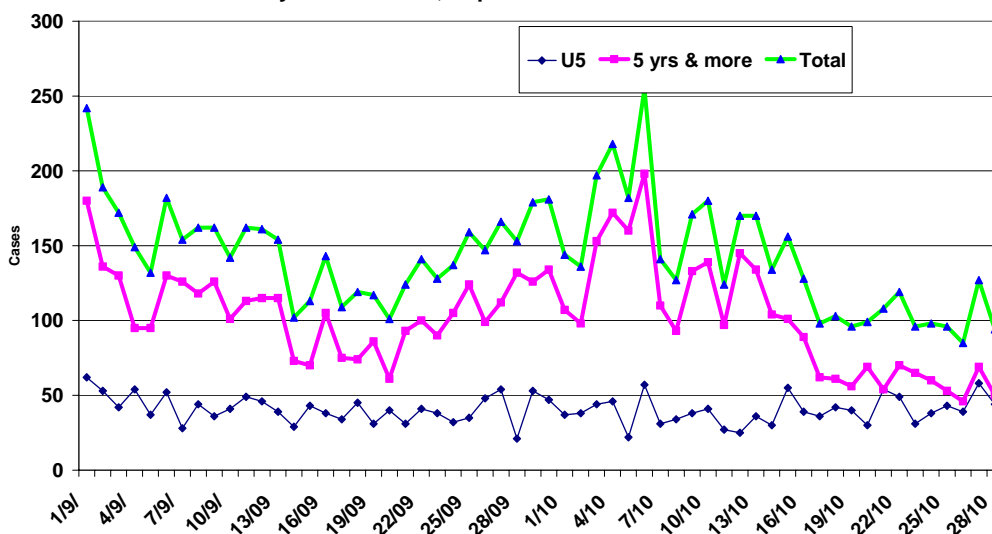


Figure 4 shows admitted diarrhoea cases to paediatric and teaching hospitals in Sulaymaniyah during the period 01/09 to 28/10/2007. It is clear that there was sustained increase between 2 and 6 October, followed by a sharp downward trend in the number of admitted patients.

### 5. PATTERN OF TRANSMISSION IN ERBIL PROVINCE

During 22-28 October 2007 (week 43), 33 were confirmed cholera-positive; the total number of confirmed cholera cases in 6 affected districts is 211 (figure 4). Unlike the situation in both Kirkuk and Sulaymaniyah, the data of reported cases show a definitive downward trend in reported diarrhoea cases. The number of cases in week 38 (-23 September) and 39 (-30 September) is almost the same as the pre-outbreak figure. The very high number of cases in week 36 (-9 September) is most likely due to the feeling of panic following the declaration by MoH of the occurrence of cholera in Kirkuk and Sulaymaniyah. This success in Erbil is mainly due to the fact that key departments (water and sanitation) have recognized their important and vital role in the fight against cholera, unlike the situation in Kirkuk where key departments are just watching with minimal contribution.

Fig. 5. Total diarrhoea, laboratory confirmed cholera, Erbil Governorate, by international week

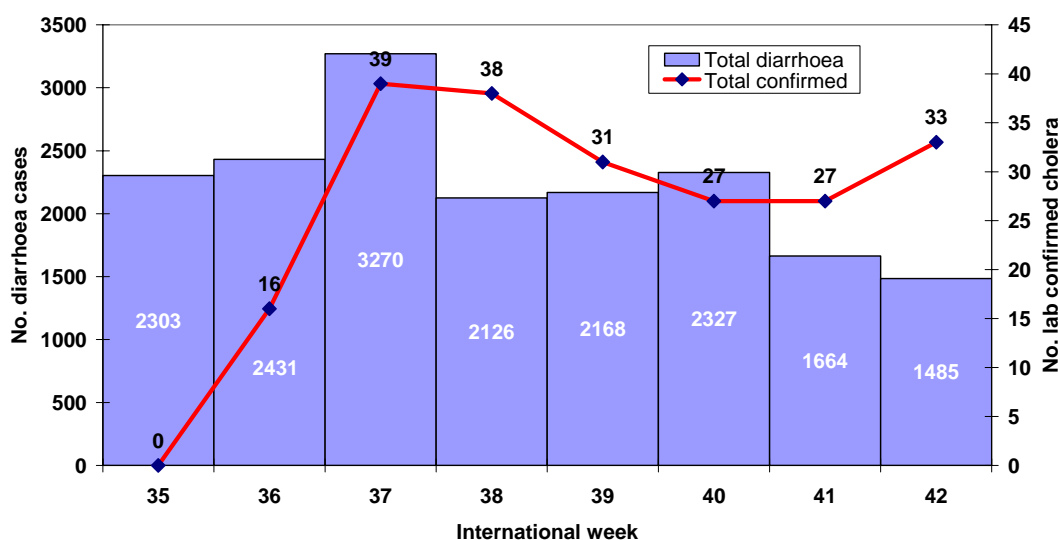


Figure 5 shows the number of laboratory-confirmed *vibrio cholerae* cases, by date of onset, during 1 September - 28 October 2007. The number of confirmed cases peaked in weeks 38 and 39 and the plateaued at the level of 27-33 cases per week during the last 4 weeks..

Erbil seems to have a fairly sensitive diarrhoea disease surveillance system that was able to pick up cholera cases very early and swiftly responded and seems to have succeeded in halting and limiting the spread and magnitude of the outbreak.

## **6. SITUATION IN REST OF IRAQ**

Apart from three affected provinces in Northern Iraq, there is no sign that cholera has spread to any other part of Iraq. However, as the weather cools and become more favourable for transmission, the organism is expected to spread to other provinces.

All possible preventive measures have been taken to reduce the risk of transmission of cholera to other high-risk areas. Epidemic preparedness for cholera has been geared up in all provinces. Surveillance system for diarrhoeal disease has been intensified in all provinces.

Operations rooms have been set up at the national level and in all provinces to gear up and monitor cholera preparedness activities, particularly trend of reported diarrhoea cases, the quantity and quality of water supply, public awareness, stockpiling of emergency drugs and medical supplies.