

## WHO Representative's Office in Iraq Amman, Jordan

### Situation Report on Cholera Outbreak in Northern Iraq

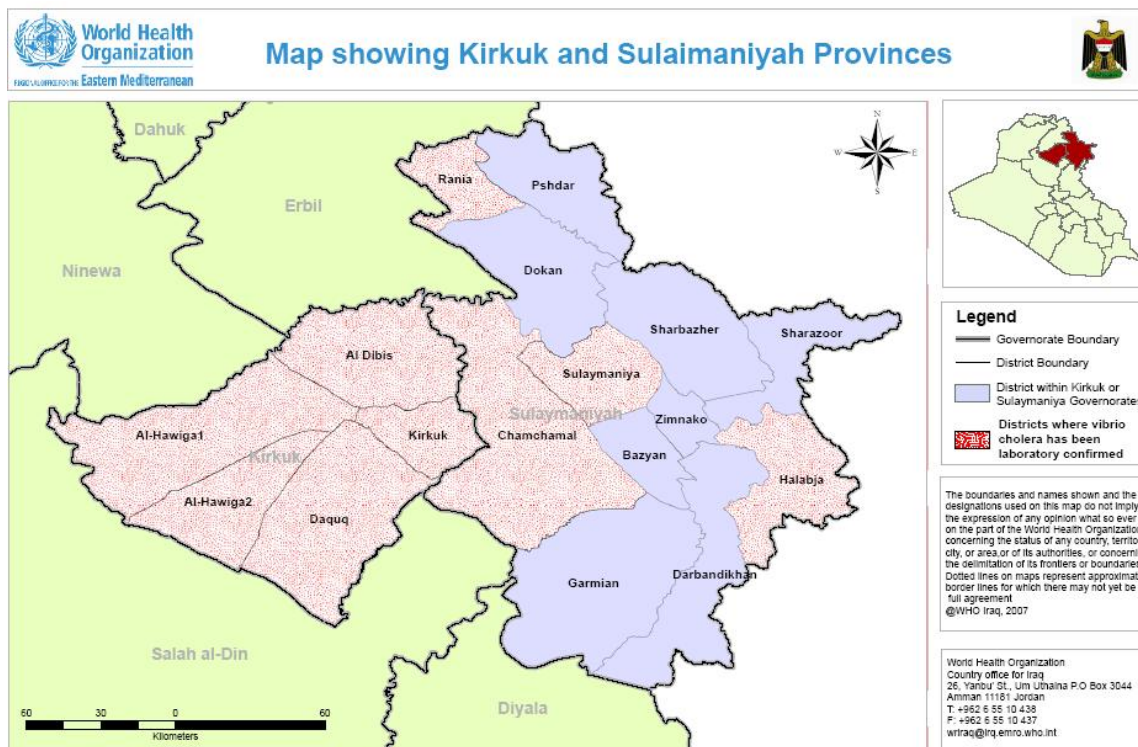
Date of Reporting: 3<sup>rd</sup> September 2007

#### 1. OVERVIEW

Since 23 August 2007, a three to four fold increase of acute watery diarrhoea cases were being reported from one of the teaching hospitals of Sulaymaniyah province in Northern Iraq. Laboratory test performed on stool specimens confirmed *Vibrio cholerae serogroup 01 Inaba* as the causative pathogen for these reported acute watery diarrhoea cases.

So far between 23 August and 02 September 2007, the cumulative number of cases of acute watery diarrhoea reported from four out of eleven districts of Sulaymaniyah province stands at 2,930 including 9 deaths with an overall case fatality rate of 0.30%. Of these reported cases, *Vibrio cholerae* has been laboratory confirmed in 187 stool samples.

On the other hand, *Vibrio cholerae serogroup 01 Inaba* was isolated from a stool specimen for the first time ever on 19 August 2007 from Kirkuk province of Northern Iraq where stool specimens are routinely collected and tested for detecting enteric pathogens as part of routine surveillance for diarrhoeal diseases which is in place in all hospitals of the province. Despite the fact that no discernible increase in case load of acute diarrhoea have been observed between two comparable periods of 2007 and 2006, a total of 2,968 cases of acute diarrhoeal syndrome including 1 death (CFR: 0.033%) were reported from Kirkuk province between 29 July and 26 August 2007. Of these reported cases, *Vibrio cholerae* has been isolated from stool specimens of 101 cases.

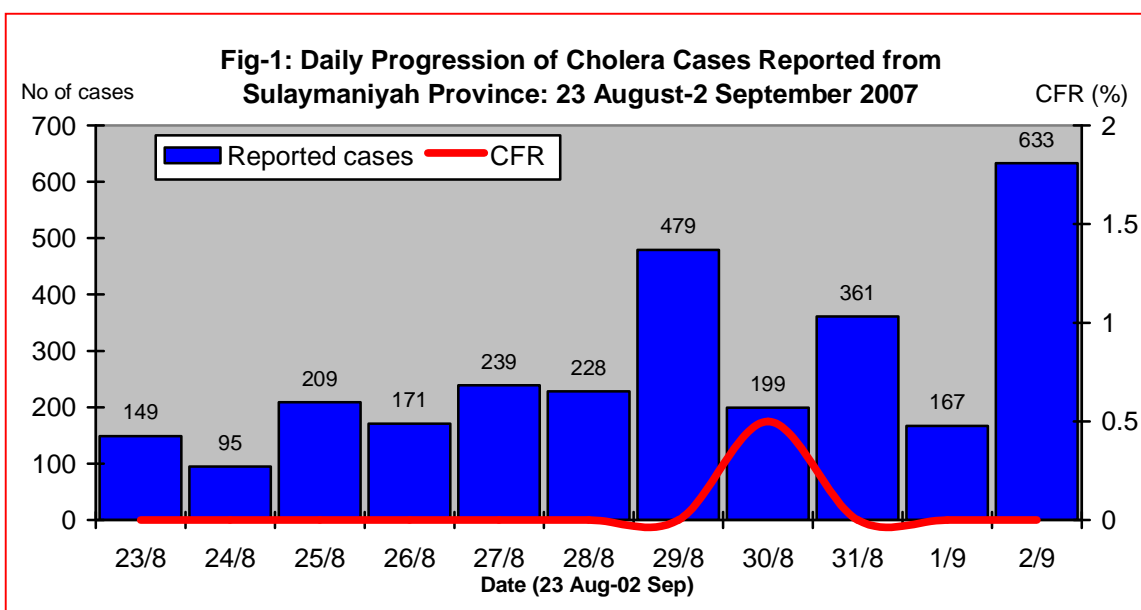


## 2. PATTERN OF TRANSMISSION IN SULAYMANIYAH PROVINCE

As of 1<sup>st</sup> of September, the outbreak, since reported on 23 August, has spread to four out of eleven districts in the province (Please see the map below) exposing over 1,502,009 people at great public health risk. No surveillance system for diarrhoeal diseases existed in the province before the outbreak started on 23 August. Only recently with support from WHO Office of Iraq, the provincial health authority has started collecting surveillance data on cases reported to the health centres and hospitals. Therefore, due to inadequacy of reporting and other limitations of the surveillance system, the cumulative number of cases of cholera reported so far from the province may be grossly underreported and may not represent the true burden of the disease.

The available report suggests that the outbreak first started in Sulaymaniyah district and then spread to other three districts (Rania, Halabja and Chamchamal). Apart from these four districts, no laboratory confirmed case of *Vibrio cholerae* has, so far, been reported from any of the remaining six districts of the province. It is unclear at this stage what has been the source of infection for this current wave of cholera in the province.

The daily progression of cases as shown in figure-1 does not reflect any particular cyclical trend. The several spikes that are shown in the epi curve may be due to incomplete reporting as well as inadequacy of reporting. As the surveillance system improves and better quality data are available from the field, better understanding on the trends as well as on the progression of the outbreak over time would be possible. Recent information received from the field suggests that number of severe cases with symptoms and signs of cholera/acute watery diarrhea reporting to health centres and hospitals might have been dropping as compared to previous week, but cumulative numbers are, probably, increasing since the surveillance coverage is expanding with more and more health centres reporting on a daily basis and due to increased public awareness, more and more cases with mild symptoms and signs synonymous with symptoms of cholera are reporting to health centres. Nevertheless, given the data that are available, it clearly shows that the transmission is still continuing and likely to spread to other adjoining districts and the risk of exposure would prevail unless the control measures can specifically target areas which remains within the epicenter of this current outbreak.

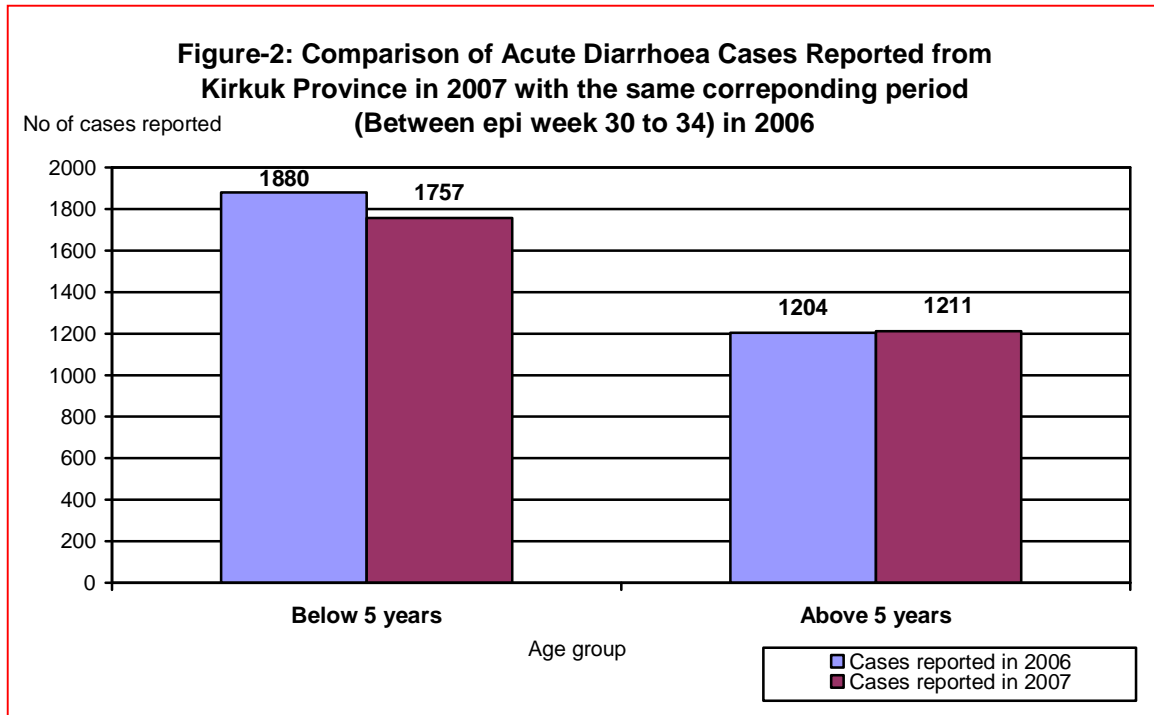


Note: Inconsistencies on cumulative as well as on daily number of cases reported from the affected districts still remain. Therefore, the present data should be regarded as "preliminary" which may be revised as the surveillance system improves and more credible data are available from the field.

As the information flow improves over the next couple of days, public health risk assessment of the current situation could possibly be done through a more comprehensive analysis of the current epidemiological situation.

### 3. PATTERN OF TRANSMISSION IN KIRKUK PROVINCE

In Kirkuk province, *Vibrio cholerae serogroup O1 Inaba* was detected from a stool specimen on 19 August 2007 for the first time ever from a stool specimen collected as part of systematic routine surveillance for detecting enteric pathogens of diarrhoeal diseases. Later on, *V. cholerae* was isolated from a further 101 stool samples collected from suspected cases



Source: Surveillance data received from Kirkuk province

As of 26 August 2007, the health authority of Kirkuk province reported 2,968 cases of acute diarrhoeal syndrome including 1 death (CFR: 0.033%). All these cases were reported from 29 July to 26 August 2007 (epi week no 30 to 34).

The comparison of current data for diarrhoeal diseases reported from Kirkuk province with those reported during the same corresponding period in 2006 (Figure-2), however, shows no perceptible increase in case load. (Neither in under 5 years age group nor in above 5 years age group). On the contrary, the number of cases of acute diarrhea reported in the below 5 years age group in 2007 shows a decrease by about 7% when compared to the number of cases reported during the same corresponding period in 2006. The number of acute diarrhea cases reported between epi week no 30 and 34 in 2007 represents, however, a marginal increase when compared to the cases reported in 2006 during the same corresponding week.

Currently, however, a daily incidence of 20 to 25 cases per day is still being reported from the outpatients of hospitals and health centres of Kirkuk province. In the absence of information regarding endemicity of cholera in the province, it is too early to elucidate from the available data whether the current situation in Kirkuk represents strong seasonal transmission of cholera or the beginning of a looming outbreak. A close epidemiological monitoring of the situation needs to be maintained to see the progression of the current trend.

#### **4. ONGOING CONTROL MEASURES FOR CONTAINMENT OF OUTBREAK**

The provincial health authorities of Sulaymaniyah and Kirkuk province have initiated a number of public health control measures to contain the current epidemic wave of cholera. WHO-Iraq is actively involved in the containment of this outbreak providing technical assistance to the health authorities for risk assessment, strengthening surveillance, improving coordination and information flow, standardizing case management, mobilizing medical and other essential supplies as well as in organizing social mobilization and health education campaigns.

Besides, WR-Iraq, through her strong advocacy at the highest level as well as through her continuous presence in the field since the outbreak began, has been able to seek strong political commitment and support from the Government of Iraq to contain this epidemic. Her meetings with His Excellencies, the President of Iraq, the President of Kurdistan, the Prime Minister of Kurdistan, the Deputy Prime Minister of Iraq, the Health Minister of Iraq and the Health Minister of Kurdistan have evolved in mobilizing over 1 million USD to support the ongoing emergency response operations to the cholera outbreak in two provinces of Northern Iraq.

##### **4.1 Risk assessment**

WHO-Iraq office, headed by the WR-Iraq, the MO (CSR) and the Water Quality Engineer, are conducting continuous risk assessment of the situation by being stationed in the affected areas since last week. However, owing to difficulty in sending more international staff to the field (because of lack of proper security training), who are experienced in cholera epidemic risk assessment, the task is being hampered to a great extent. The presence of WR-Iraq, the MO (CSR) and Water Quality Engineer of WRO-Iraq in the field, nevertheless, have allowed a continuous information flow between the affected areas, WRO-Iraq office in Amman, WHO-EMRO and WHO-HQ to better guide response operations.

##### **4.2 Coordination and Information management**

A high level national committee on cholera preparedness and outbreak has been established in Iraq under the leadership of H.E. Dr Abdul Samad, the Acting Minister of Health. The committee, since formed, has convened two meetings so far. In the last meeting of this committee, the Director of water and sanitation services informed that they have, with them, only two months stock of chlorine powder for decontamination of public water supply system whereas 2,000 tons of chlorine powder are lying at the Jordanian border and could not be shipped inside because of lack of proper escort. The representatives of Ministry of Defense and the Ministry of Interior present in the meeting offered their assistance to provide proper escort and transport these 2,000 tons of chlorine powder from the Jordanian border to the ware house of water and sanitation services. The OIC of WHO Baghdad office attended both these two meetings.

In Sulaymaniyah province, a task force has been formed with the local Governor in the chair to coordinate the overall emergency response operations to cholera outbreak. The task force draws members from all related disciplines including water and sanitation department, ministry of interior and others. The committee is also tasked with mobilizing appropriate resources for the response operations. There is another committee at the level of Provincial Ministry of Health which is chaired by the Director General and co-chaired by the WHO Representative in Iraq. This committee oversees the cholera response operations in the affected districts in coordination with the local health authorities. An action plan for cholera outbreak response has been elaborated by the committee and agreed upon by all health partners. This committee sits every day to review the situation and take decisions on specific cholera control measures as well as provide technical oversight for implementation of cholera response action plan. Apart from WHO, UNICEF and UNDP, a number of other health NGOs like IMC, ICRC and MSF (France) are also coordinating with the local health authorities for the ongoing response operations.

An operation room has been set up at the provincial ministry of health in order to better manage information flow between the affected areas. This operation room is being supported by WHO-Iraq.

#### **4.3 Surveillance for cholera**

WHO-Iraq office is assisting the provincial health authority in setting up a surveillance system for cholera. Necessary guidelines, case definitions for cholera and surveillance forms have been distributed to all hospitals and health centres for reporting cases of cholera. The health centres and the hospital authorities have been asked to report all suspected cases using a line list form so that better understanding on the true burden of the outbreak could be gathered.

#### **4.4 Case management**

WHO-Iraq office has printed 5000 posters on WHO's standard case management guideline for cholera and 5000 posters on cholera outbreak assessment which have been distributed to health authorities in an attempt to standardize case management of cholera cases in all health-care settings. WHO-Iraq has also conducted a series of hands-on training on case management for health care providers.

#### **4.5 Field investigation**

WHO-Iraq Office has distributed multiple copies of standardized case investigation form to the provincial health authority and with the help of 104 medical students and over 20 nurses, a field investigation is planned to begin this week for determining the cause of the outbreak as well as identify the source of exposure. Necessary training is also being imparted on data collection, collation and analysis.

#### **4.6 Social mobilization**

Religious leaders, community heads, medical, nursing and pharmacy students have been involved in organizing health education campaigns in the affected areas in order to raise public awareness for good personal and food hygiene at the household level in response to the ongoing outbreak. Necessary health education materials have also been distributed in enough quantities to target high risk group for the campaign.

#### **4.7 Pre-positioning medical supplies**

WHO-Iraq office has ordered for 10 Interagency Diarrhoeal Disease Kits in order to pre-position adequate quantities of essential drugs and medical supplies in all hospitals and health centres including at all peripheral level hospitals so as to improve access of cholera cases to standardized care in all health care settings of the affected areas.

In addition, as of 4<sup>th</sup> of September, two trucks full of IV Fluids, Antibiotics, IV Cannula and other essential supplies purchased by WHO-Iraq office would be delivered to Elbil .

#### **4.7 Environmental health management**

All the public water supply systems (Piped water supply, Deep wells, Deep tubewells, etc).in the affected districts have been chlorinated by the provincial authority. In addition, water samples from the public water supply sources are being collected and tested routinely for detecting water contamination. UNICEF's support staff as well as the Environmental Health Engineer of WHO-Iraq office currently stationed in the affected areas are working together for water quality testing.

## **5. STRATEGIC ACTIONS FOR STRENGTHENING ONGOING CONTAINMENT OPERATIONS**

In view of the prevailing situation as well as the need to improve the effectiveness of ongoing containment operations for cholera, the following strategic action points are being recommended by WHO-Iraq to the provincial health authorities of Sulaymaniyah and Kirkuk province:

### **5.1 *Strengthening surveillance for cholera***

In order to better monitor the epidemic progression, strengthening surveillance system for cholera would be given the top most priority in the coming days. Daily reporting from all health centres including “zero reporting” would be emphasized and all cases reported from health centres, not only cases admitted in the hospitals would be included in the daily reporting of cases.

In addition, active surveillance for detecting active cases in the community would be started so that cases disguised in the community can be controlled through appropriate treatment.

Furthermore, regular analysis of surveillance data on cholera would be given priority in order to guide specific intervention to limit spread to other high risk areas and stop the transmission.

### **5.2 *Mapping of cases***

The line list form being introduced in all health centres for reporting cases of cholera would be used for mapping the cases by place so that high risk areas could be identified and targeted for specific cholera control interventions.

### **5.3 *Laboratory diagnostics***

Since the outbreak has been confirmed in many districts of both Sulaymaniyah and Kirkuk province, collection of stool samples for laboratory confirmation from these districts would no longer be given a priority and health authorities would be asked not to overwhelm the public health laboratories with unnecessary testing of stool samples. Instead, rapid diagnostic test kits (dipstick) would be used to monitor the positivity trend. However, stool samples would continue to be collected and tested from previously non-reporting areas in order to confirm the outbreak. Further, stool samples would randomly be collected from the states where the outbreak has been confirmed for monitoring changes, if any, of the antimicrobial sensitivity pattern.

### **5.4 *Estimation of projected needs for drugs and medical supplies***

As the outbreak progresses, there would be a need to project future needs for drugs and medical supplies to manage cases in accordance with standard case management guidelines. As more valid information on the current trend of the disease becomes available, a projected case load of cholera over the next 3 to 4 months, should the outbreak continues, would be determined using the current incidence rate of cholera cases reported from the affected districts. Using this projected case load, global needs for drugs and other essential medical supplies would be determined in case additional supplies are required should the outbreak lasts longer than expected. Based on this projection on the need, essential supplies would be pre-stocked in all peripheral health centres of the affected and non-affected districts..

### **5.5 *Epidemiological investigation***

Regular review and analysis of descriptive epidemiological data specific to time, place and risk factors would be done (depending on the availability of staff) in order to better guide cholera specific interventions to stop the transmission.

## 6. URGENT NEEDS

The following urgent needs, which are preliminary, have been identified by the WRO-Iraq to contain the current outbreak:

- The ten interagency diarrhoeal disease kits which have been ordered by WRO-Iraq through WHO/HQ needs to be expeditiously sent to the field. In case these kits can not be airlifted, these could be transported by road from Turkey;
  - Rapid Diagnostic Kits (Dipstick) for Cholera- Approximately 5000 kits
  - Enteric disease bacteriology kits- 10 to support field laboratory investigation
  - Operational cost (USD 200,000) for the surveillance team in the affected districts;
  - Communication equipment (RB Gan, Mobile telephone, Thuraya, Laptop, etc) to support better information flow between the field and the WHO Iraq Office in Amman;
  - Chlorine powder: 10 tons
  - Water purification tablets, Soaps and Gerry cans for 100,000 families;
  - Cost for printing of 300,000 health education leaflets (Approximately USD 50,000)
  - Water testing kits for water quality control lab in the field
  - Cost for production and display of TV spots on health and hygiene promotion (Approximately USD 50,000)
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