Northwest of Syria Cholera Outbreak

Situation Report No.41
Epidemiological Week - 28 (9 July – 15 July 2023)

Key Highlights

Cumulatively, a total of 109816 suspected cases (48689 in Aleppo governorate, 61127 in Idleb governorate) including 849 confirmed have been reported by EWARN team since 16 September, including 23 deaths case.

- The highest number of cases were reported in Harim district (31465) and Idleb district (19330) in Idleb governorate, then Azaz district (13435), Jebel Saman district (10988) in Aleppo governorate.
- 20453 total suspected cases (including 863 new cases in Epi week 28 - 2023) were reported from camps.
- 57.49 % Of the suspected cases are in the age group <5 years. Males are 51% of the total and females are 49%.
- Since the outbreak started, surveillance and reporting from facilities are being supported and strengthened. For better understanding of the background and context, please read previous sitreps.
- Line list is shared with WHO and WASH team to aid Targeted response at a household level being conducted for identified cases.
- Active case search is ongoing, especially in the camps.

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Situation Updates

1. **Epidemiology**

Updated case definition: A resident of outbreak areas with sudden onset of acute watery diarrhea with or without vomiting.

In Epi week 28 - 2023, **4175 suspected cases of cholera were reported**. The affected governorates are Aleppo (1757 suspected cases, 7 confirmed), and Idleb (2418 suspected cases, 10 confirmed). 21% of the total were in the camps.

The age group less than 5 reported 51.66%. Sex distribution of the suspected cases is 48% Male, and 52% Female.

There were no death cases in the epi week 28.

Dana subdistrict in Idleb governorate reported the highest number of cases (647), in contrast Azaz subdistrict reported the highest number in Aleppo governorate (382).
The overall sex distribution of the suspected cases is 51% Male, and 49% Female.

100% of the line listed cases were presented as Acute watery Diarrhea, 20% with vomiting, 4% as rice watery diarrhea, and 8% were dehydrated.

20% of the total cases live in camps (20453), and 80% out of camps (80435). (8927 of the total line listed cases are unknown)

As the outbreak progresses, sensitivity should be increased by including smaller age groups and mild/moderate symptom groups in order to estimate the burden of the outbreak. According to WHO, in areas where a cholera outbreak has been confirmed, any person presenting with or dying from acute watery diarrhea is considered a suspected cholera case. The age group less than 5 years was 57.49%.
### Cases Distribution Subdistrict Wise

<table>
<thead>
<tr>
<th>Week</th>
<th>Governorate</th>
<th>District</th>
<th>Date of Onset</th>
<th>Population</th>
<th>New cases</th>
<th>Cumulative Cases</th>
<th>New Death</th>
<th>Cumulative Deaths</th>
<th>Case Fatality Rate</th>
<th>Incidence Rate</th>
<th>Attack Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Up to W28 - 2023</td>
<td>Idleb</td>
<td>Ariha</td>
<td>20-Sep</td>
<td>185,668</td>
<td>212</td>
<td>6745</td>
<td>0</td>
<td>1</td>
<td>0.01%</td>
<td>114.2</td>
<td>3.63%</td>
</tr>
<tr>
<td></td>
<td>Idleb</td>
<td>Harim</td>
<td>6-Sep</td>
<td>1,586,820</td>
<td>1089</td>
<td>31465</td>
<td>0</td>
<td>9</td>
<td>0.03%</td>
<td>68.6</td>
<td>1.98%</td>
</tr>
<tr>
<td></td>
<td>Idleb</td>
<td>Idleb</td>
<td>14-Sep</td>
<td>713,933</td>
<td>1101</td>
<td>19330</td>
<td>0</td>
<td>3</td>
<td>0.02%</td>
<td>154.2</td>
<td>2.71%</td>
</tr>
<tr>
<td></td>
<td>Jisr-Ash-Shugur</td>
<td>Idleb</td>
<td>25-Sep</td>
<td>310,973</td>
<td>16</td>
<td>3587</td>
<td>0</td>
<td>1</td>
<td>0.03%</td>
<td>5.1</td>
<td>1.15%</td>
</tr>
<tr>
<td>Aleppo</td>
<td>A'zaz</td>
<td>9-Sep</td>
<td>648,600</td>
<td>584</td>
<td>13435</td>
<td>0</td>
<td>0</td>
<td>0.00%</td>
<td>90.0</td>
<td>2.07%</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Afrin</td>
<td>21-Sep</td>
<td>467,090</td>
<td>356</td>
<td>9629</td>
<td>0</td>
<td>3</td>
<td>0.03%</td>
<td>76.2</td>
<td>2.06%</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Al Bab</td>
<td>17-Sep</td>
<td>339,812</td>
<td>145</td>
<td>4887</td>
<td>0</td>
<td>2</td>
<td>0.04%</td>
<td>42.7</td>
<td>1.44%</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Jarablus</td>
<td>12-Sep</td>
<td>121,938</td>
<td>356</td>
<td>9750</td>
<td>0</td>
<td>4</td>
<td>0.04%</td>
<td>292.0</td>
<td>8.00%</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Jebel Saman</td>
<td>10-Sep</td>
<td>251,785</td>
<td>316</td>
<td>10988</td>
<td>0</td>
<td>0</td>
<td>0.00%</td>
<td>125.5</td>
<td>4.36%</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td></td>
<td>4,626,619</td>
<td>4175</td>
<td>109816</td>
<td>0</td>
<td>23</td>
<td>0.02%</td>
<td>90.2</td>
<td>2.37%</td>
<td></td>
</tr>
</tbody>
</table>
Laboratory:

- In Epi week 28-2023, the total number of stool specimens or rectal swabs is 195, (86 in Aleppo – 7 confirmed), (109 in Idleb – 10 confirmed).

- A cumulative of 6575 samples were collected since the start of the outbreak (6% of overall line listed cases), of which 849 have tested positive by stool culture. The total positivity rate in NWS is 13%.

- The total number of negative cases by stool culture is 5695, and the remaining 31 are still pending.

- Isolation and identification of V. cholera serogroup O1 or O139 by a culture of a stool specimen remain the gold standard for laboratory diagnosis.

- Currently, at EWARN laboratories (Idleb, Afrin, Jarablus, and Tal-Abiad) Fecal specimens are subcultured onto selective and nonselective media, including Nutrient agar and TCBS agar, for detection of V. cholera O1.

- Suspicious, oxidase-positive isolates are serotyped in polyvalent antisera raised against the O1 Antigen.

- Antimicrobial-sensitivity testing is performed to detect resistance.

- The culture sensitivity results came sensitive for the following antibiotics: Azithromycin, Imipenem, Chloramphenicol, Ciprofloxacin, and Norfloxacin.

- The resistance is to Tetracycline, Doxycycline, and Sulfamethoxazole Trimethoprim.

- The laboratory team handles the specimens and waste management according to infection control standards.

- The sample collection protocol is to collect stool samples in 5-6% of the total suspected cholera cases per subdistrict and 5 samples from the admitted cholera suspected cases in the CTC/CTU per week.
During epi week 28, EWARN received 278 RDT results from the CTC/CTUs and some HFs, 12 of them were positive for Cholera.

The total of RDT tests starting from epi week 5 reached 2304, and the total positive is 109.

The positivity rate of RDTs, from epi week 5 – 2023 up to epi week 28 – 2023 is 4.73 %. But the positivity rate from the beginning of cholera outbreak up to epi week 28 – 2023 is 5.6 %.

- **For children under 5 years of age with a stool culture negative for cholera:**
  In epi week 28, the lab tested 29 samples to detect Rotavirus, one of them was positive.

- **The total samples collected for Rotavirus reached 815 (140 were positive), while the total samples for Adenovirus were 218 (one positive)**
<table>
<thead>
<tr>
<th>Epi Week</th>
<th>Governorate</th>
<th>District</th>
<th>RDT+</th>
<th>RDT-</th>
<th>Postivity Rate for RDT</th>
<th>Stool Culture Positive</th>
<th>Stool Culture Negative</th>
<th>Postivity Rate for Culture</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
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<td></td>
<td></td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Up to W26 - 2023</td>
<td></td>
<td>Afrin</td>
<td>46</td>
<td>274</td>
<td>14.4%</td>
<td>218</td>
<td>1022</td>
<td>17.6%</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Al Bab</td>
<td>2</td>
<td>83</td>
<td>2.4%</td>
<td>19</td>
<td>272</td>
<td>6.5%</td>
</tr>
<tr>
<td></td>
<td></td>
<td>A’zaz</td>
<td>15</td>
<td>131</td>
<td>10.3%</td>
<td>43</td>
<td>241</td>
<td>15.1%</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Jarabulus</td>
<td>7</td>
<td>161</td>
<td>4.2%</td>
<td>82</td>
<td>577</td>
<td>12.4%</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Jebel Saman</td>
<td>11</td>
<td>203</td>
<td>5.1%</td>
<td>65</td>
<td>718</td>
<td>8.3%</td>
</tr>
<tr>
<td></td>
<td>Aleppo</td>
<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Ariha</td>
<td>3</td>
<td>125</td>
<td>2.3%</td>
<td>42</td>
<td>613</td>
<td>6.4%</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Harim</td>
<td>48</td>
<td>882</td>
<td>5.2%</td>
<td>285</td>
<td>1429</td>
<td>16.6%</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Idleb</td>
<td>10</td>
<td>446</td>
<td>2.2%</td>
<td>47</td>
<td>693</td>
<td>6.4%</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Jisr-Ash-Shugur</td>
<td>3</td>
<td>160</td>
<td>1.8%</td>
<td>48</td>
<td>140</td>
<td>25.5%</td>
</tr>
<tr>
<td></td>
<td>Idleb</td>
<td></td>
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<tr>
<td></td>
<td>Total</td>
<td></td>
<td>145</td>
<td>2465</td>
<td>5.6%</td>
<td>849</td>
<td>5705</td>
<td>13.0%</td>
</tr>
</tbody>
</table>

Classification of Cholera Cases by Sub-district

[Graph showing classification of cholera cases by sub-district]
2. **WASH:**

The WASH team works closely and in high coordination with RRT (Rapid Response Team), formed from staff working in EWARN (DLOs, FLOs...). The team, after receiving any alert, focuses on the investigation of WASH services in the hotspot areas.

The investigation includes:
1. Taking samples from drinking water resources (main stations, wells, water trucks, water taps.... etc.).
2. Investigate sewage networks and septic tanks' locations and other sanitation services.
3. Identify Hygienic practices.... etc.
4. Assessing agriculture markets (Identify irrigation water and resource of agricultural products if applicable).

ACU team conducted 5 investigations included taking 37 samples from different points:

- **Korin community / Ariha sub-district / Ariha district/ Idleb governorate:**
  6 samples were taken, 2 samples were contaminated (taken from tanks situated in a house and mosque).

- **Idleb Community / Idleb sub-district / Idleb district/ Idleb governorate:**
  8 samples were taken, no sample was contaminated.

- **Ariha community / Ariha sub-district / Ariha district/ Idleb governorate:**
  6 samples were taken, 3 of which were contaminated (taken from a house, public well, and educational Institute).

- **Ghandora community / Jarablus district / Aleppo governorate:**
  6 samples were taken, no sample was contaminated.

- **Bab Al-Salameh community (Old Bab Al Salame camp) / A’zaz sub-district/ A’zaz District/ Aleppo governorate:**
  11 samples were taken, 6 of them were contaminated (contaminated water resources are chlorinated before supplying to beneficiaries).

[Full Investigation Reports](#)
Actions taken

- The EWARN team is currently conducting active surveillance in the most important health facilities in northwest Syria (25 HFs). During the visit, the team reviews with the health facility staff the records to ensure the reported cases, also discusses the challenges, and recommendations, and collaborates to treat the problems.

- The EWARN team is receiving the RDT results from health facilities and CTC/CTUs and sharing them.

- To determine the causes of acute watery diarrhea in children under 5 years (the children have a negative cholera result), the EWARN lab is conducting Rotavirus and Adenovirus rapid diagnostic tests (RDTs).

- The response teams conducted an expanded investigation of the deaths that occurred since the beginning of the outbreak (23 deaths), where some possible causes were identified, and the teams made appropriate recommendations.

- ACU teams conduct regular awareness sessions about Cholera, prevention, and control measures for local authorities and affected people during the investigation. Besides, the result of investigations is shared with the WASH cluster and acting organization in the area to take immediate action.