Republic of South Sudan

Situation Report #64 on Cholera in South Sudan
As at 23:59 Hours, 24 August 2015

Situation Update
Today, four new cholera cases have been reported in Juba County giving a total of 1519 including 45 deaths (CFR 2.96%) from seven Payams (Table 1). In Bor, 130 cases including one death (CFR 0.77%) have been reported from Malou in Makuach Payam and other areas within the County.

Cumulatively, 1649 cholera cases including 46 deaths (27 facility and 19 community) (CFR 2.79%) have been reported in Juba and Bor Counties since the initial case was reported on 26 May 2015 in Juba. Of the 46 deaths, 11 (24%) occurred in children under five years while 31 (67.4%) occurred in male. One cholera case not recorded on the 22 August 2015 has been added to the total. Table 1 and Figure 1.

Table 1. Summary of cholera cases reported in Juba and Bor Counties, 18 May - 24 August 2015

<table>
<thead>
<tr>
<th>Reporting Sites</th>
<th>CES – Juba County</th>
<th>IMC UN House PoC clinic</th>
<th>Juba Teaching Hospital</th>
<th>MedAir Gumbo CTU</th>
<th>MedAir Gudele ORP</th>
<th>HLSS Nyakuron ORP</th>
<th>HLSS Kator ORP</th>
<th>HLSS Gurei ORP</th>
<th>HLSS Munuki ORP</th>
<th>HLSS Al Sabah ORP</th>
<th>HLSS Lologo ORP</th>
<th>MSF Munuki CTC</th>
<th>Other sites in Juba</th>
<th>Jonglei State – Bor</th>
<th>Bor State Hospital</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>New admissions</td>
<td>New discharges</td>
<td>New deaths</td>
<td>Total cases</td>
<td>LAMA*</td>
<td>Total facility deaths</td>
<td>Total community deaths</td>
<td>Total deaths</td>
<td>Total cases discharged</td>
<td>Total cases</td>
<td></td>
<td></td>
<td>Total</td>
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<tr>
<td>CES – Juba County</td>
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<td>7</td>
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<td>10</td>
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<td>26</td>
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<td>9</td>
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<td>11</td>
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<td>Jonglei State – Bor</td>
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<td>125</td>
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<td>Total</td>
<td>4</td>
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<td>218</td>
<td>27</td>
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</tbody>
</table>

* LAMA: LEAVE AGAINST MEDICAL ADVICE; CES: Central Equatoria State

Figure 1: New cholera cases in Juba by residence on 24 August 2015

During this first day of week 35 of 2015, cholera cases originated from Juba and Munuki payams as shown in Figure 1.
sustained and consistently increasing community transmission was established in Juba from the 6 June 2015 [23rd epidemiological week] with two transmission peaks in week 27 and 29. Cholera cases have been declining since 20 July 2015 [30th epidemiological week].

As seen from Figure 2 and 2.1, the initial case occurred on 26 June 2015 [26th epidemiological week] with increasing number of cases from week 26 to week 27 when the highest transmission peak was registered. In the subsequent weeks, successively shorter transmission peaks were registered, a trend that is consistent with declining community transmission (Figures 2 and 2.1).
Figure 2.1: Cholera cases in Juba and Bor by week of onset, week 21-35 of 2015

As of 22 August 2015, the sites reporting the highest cumulative number of cholera cases included Gumbo, New site, Juba 3 PoC, Gudele 2, Atlabara B, and Munuki with satellite cases distributed in seven Payams in Juba County (Figure 3.1). In Bor County, the majority of the cases originated from Malou, Langbarr, Achingdii, Arek, and Hai Salam in Makuach Payam.

Figure 3.1: Spot map for cholera cases by place of residence, Juba County, 18 May - 24 August 2015
In Juba County, Northern Bari, Munuki, Rejaf, and Kator are most affected, as well as children under 10 years and adults aged 20-34 years. In Bor County, Makuach Payam, and children under 10 years are the most affected. (Tables 3.1 and 3.2; Annex 3).

Table 3.1: Cholera case distribution by age in Juba County, 18 May - 24 August 2015

<table>
<thead>
<tr>
<th>Age Group</th>
<th>Male</th>
<th>Female</th>
</tr>
</thead>
<tbody>
<tr>
<td>under fives</td>
<td>95</td>
<td>75</td>
</tr>
<tr>
<td>5-9 years</td>
<td>126</td>
<td>97</td>
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<tr>
<td>10-14 years</td>
<td>46</td>
<td>46</td>
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<tr>
<td>15-19 years</td>
<td>49</td>
<td>54</td>
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<tr>
<td>20-24 years</td>
<td>86</td>
<td>94</td>
</tr>
<tr>
<td>25-29 years</td>
<td>94</td>
<td>94</td>
</tr>
<tr>
<td>30-34 years</td>
<td>54</td>
<td>46</td>
</tr>
<tr>
<td>35-39 years</td>
<td>75</td>
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<td>45-49 years</td>
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<tr>
<td>50-54 years</td>
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<td>55-59 years</td>
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<td>60-64 years</td>
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<tr>
<td>65-69 years</td>
<td>10</td>
<td>10</td>
</tr>
<tr>
<td>70+ years</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>
Table 3.2: Cholera case distribution by age in Bor County, 18 May – 24 August 2015

<table>
<thead>
<tr>
<th>Age Group</th>
<th>Number of Cases</th>
</tr>
</thead>
<tbody>
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<td>Under five</td>
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<tr>
<td>5-9 years</td>
<td>38</td>
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<tr>
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<td>20-24 years</td>
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<td>35-39 years</td>
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<td>40-44 years</td>
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<td>45-49 years</td>
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<td>55-59 years</td>
<td>2</td>
</tr>
<tr>
<td>65-69 years</td>
<td>2</td>
</tr>
</tbody>
</table>

*There are missing information in sex and age

Out of the 1509 cholera cases with known sex in Juba, 650 (43%) were female, while 853 (57%) were male while in Bor, 75 (58%) of the cases were females, while 55 (42%) were males (Table 4).

Table 4: Case distribution by sex and age in Juba and Bor Counties, 18 May - 24 August 2015

<table>
<thead>
<tr>
<th>Health Facility</th>
<th>n (%)</th>
<th>Male</th>
<th>Female</th>
<th>Male</th>
<th>Female</th>
</tr>
</thead>
<tbody>
<tr>
<td>CES - Juba</td>
<td>1518</td>
<td>858</td>
<td>655</td>
<td>57</td>
<td>43</td>
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<tr>
<td>Jonglei state – Bor County</td>
<td>130</td>
<td>75</td>
<td>55</td>
<td>58</td>
<td>42</td>
</tr>
<tr>
<td>Grand Total</td>
<td>1643</td>
<td></td>
<td></td>
<td></td>
<td></td>
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</tbody>
</table>

*There are missing information in sex and age

The probable risk factors fueling transmission include: residing in a crowded IDP camp with poor sanitation and hygiene; using untreated water from the Water tankers; lack of household chlorination of drinking water; eating food from unregulated roadside food vendors or makeshift markets; open defecation/poor latrine use; and attending/eating food at a funeral.

Laboratory updates

Table 5: Cholera laboratory test results for Juba and Bor, 18 May – 24 August 2015

<table>
<thead>
<tr>
<th>Health Facility</th>
<th>Number of RDT tests</th>
<th>Number of RDT positives</th>
<th>Number of stool cultures</th>
<th>Number of cholera Culture positives</th>
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</thead>
<tbody>
<tr>
<td>CES – Juba</td>
<td>282</td>
<td>253</td>
<td>96</td>
<td>37</td>
</tr>
<tr>
<td>Juba Teaching Hospital</td>
<td>183</td>
<td>170</td>
<td>55</td>
<td>17</td>
</tr>
<tr>
<td>Juba 3 PoC clinic</td>
<td>70</td>
<td>64</td>
<td>22</td>
<td>11</td>
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<tr>
<td>MSF Munuki CTC</td>
<td>13</td>
<td>7</td>
<td>4</td>
<td>0</td>
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<tr>
<td>Other sites in Juba</td>
<td>12</td>
<td>9</td>
<td>10</td>
<td>5</td>
</tr>
<tr>
<td>MedAir Gumbo CTU</td>
<td>4</td>
<td>3</td>
<td>5</td>
<td>4</td>
</tr>
<tr>
<td>Jonglei state – Bor</td>
<td>71</td>
<td>61</td>
<td>17</td>
<td>9</td>
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<tr>
<td>Bor State Hospital</td>
<td>71</td>
<td>61</td>
<td>17</td>
<td>9</td>
</tr>
<tr>
<td>Total</td>
<td>353</td>
<td>318</td>
<td>113</td>
<td>46</td>
</tr>
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</table>

As seen from Table 5, 314 (89%) of the samples have been RDT positive while 46 (41%) have been confirmed by culture after the National Public Health Laboratory isolated *Vibrio cholerae Inaba*. Most of the culture confirmed cases have been reported from Juba 3 PoC, New site, Munuki, and Nyakuron West in Juba while in Bor, Malou and Achingdii have registered the highest number of confirmed cases (Figure 4).

Seven stool samples were shipped to the Central Public Health Laboratory in Uganda for testing. *Vibrio cholerae Inaba* serogroup, 01 serotype was isolated from one of the samples while six samples tested negative for cholera but were positive for nonpathogenic *Escherichia coli*. Three isolates were confirmed as positive and three negative samples tested negative on repeat testing in Uganda thus confirming earlier test results by the National Public Health Laboratory. The four isolates were sensitive to tetracycline and ciprofloxacin; intermediate for Ampicillin and chloramphenicol and resistant to Sulphamethoxazole.
Planned and On-going Activities

1. The next national cholera taskforce meeting is scheduled for Monday 31 August 2015 at 10:00 am in the MoH Ministerial Boardroom.
2. The next cholera coordination meeting in UN House PoC is scheduled for 3 September 2015 at 11:30 am in the RRP Boardroom.
3. Muniki CTC will close on Wednesday 26 Aug 2015 due to low turnout of patient. However partners are advised to start referring patients to JTH from Tuesday 25 Aug 2015
4. Gumpo ORP will close, on Thursday 27 Aug 2015, due to consistent and reducing trends of cases.

Many thanks to the staff at CTCs, MoH at national level and state levels, especially the Department of IDSR, who have helped to gather the information presented here. Situation Reports are posted on the WHO website: http://www.who.int/hac/crises/ssd/en/ as well as on the Humanitarian Info webpage: http://southsudan.humanitarianresponse.info/clusters/health.

The MoH/WHO surveillance team welcomes feedback and data provided by individual agencies. Given the fast evolving nature of this epidemic, errors and omissions are inevitable: we will be grateful for any information that helps to rectify these. Send any comments and feedback to: E-mail: outbreak_ss_2007@yahoo.com, The Toll free numbers for alerts are: Zain: 0912000098

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Director - IDSR
MoH, Republic of South Sudan
Tel: +211955150406
Annex 1: Cholera epidemic curves by Payam - 18 May to 24 August 2015

Cholera Epidemic Curve Juba Payam 2015

Cholera Epidemic curve Northern Bari Payam 2015

Cholera Epidemic Curve Rejaf Payam 2015

Cholera Epidemic Curve Munuki Payam 2015
Annex 2: Cholera case distribution by age, sex and Payam – 18 May to 22 August 2015

Cholera case distribution by age in Juba Payam, week 26-35, 2015

Cholera case distribution by age in Kator Payam, week 26-35, 2015

Cholera case distribution by age in Munuki Payam, week 26-35, 2015
Cholera case distribution by age in Northern Bari Payam, week 26-35, 2015

Number of cases

<table>
<thead>
<tr>
<th>Age Group</th>
<th>Male</th>
<th>Female</th>
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<td>24</td>
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Cholera case distribution by age in Rejaf Payam, week 26-35, 2015

Number of cases

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</tr>
<tr>
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<tr>
<td>60-64 years</td>
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<td>1</td>
</tr>
<tr>
<td>65-69 years</td>
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</tr>
<tr>
<td>70+ years</td>
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</tr>
</tbody>
</table>

Cholera case distribution by age in Makuach Payam, Bor week 26-35, 2015

Number of cases

<table>
<thead>
<tr>
<th>Age Group</th>
<th>Male</th>
<th>Female</th>
</tr>
</thead>
<tbody>
<tr>
<td>Under fives</td>
<td>27</td>
<td>8</td>
</tr>
<tr>
<td>5-9 years</td>
<td>30</td>
<td>5</td>
</tr>
<tr>
<td>10-14 years</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>15-19 years</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>20-24 years</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>25-29 years</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>30-34 years</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>35-39 years</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>40-44 years</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>45-49 years</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>50-54 years</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>55-59 years</td>
<td>1</td>
<td>1</td>
</tr>
</tbody>
</table>

[Charts showing case distribution by age for Northern Bari Payam, Rejaf Payam, and Makuach Payam, Bor]