Mozambique
Response to Cyclone Kenneth

May 27 to June 2, 2019
Week 22
Weekly epidemiological bulletin
Publication nº5
Cholera

Cyclone Kenneth made landfall in Cabo Delgado Province on 26 April 2019. An outbreak of cholera was confirmed on 01 May 2019. Since the declaration of the cholera outbreak and up to 2 June 2019, 266 suspect cases and no deaths were reported. The cumulative attack rate in Cabo Delgado Province was 81 per 100 000 population. Pemba district was the most affected district with a cumulative attack rate of 104 cases per 100 000 population.

In week 22, from 27 May to 2 June 2019, 17 suspect cases and no deaths were reported in Pemba, Mecúfi, and Metuge districts of Cabo Delgado Province. Daily reported cases remained at a constant low level in Pemba district and remained intermittent in Mecúfi and Metuge districts.

From 1 May to 27 May, laboratory culture was performed on 46 RDT-positive samples, of which 42 (91%) were culture positive, with no results pending (Table 3). No tested in week 22 were culture positive.

From 16 to 21 May, the Ministry of Health conducted a mass vaccination campaign in Pemba, Mecúfi, and Metuge districts, providing oral cholera vaccination to more than 253 000 individuals older than 1 year of age (91.8% coverage).

Malaria

Since landfall of cyclone Kenneth and up to 2 June, 12 860 confirmed cases have been reported in the most-affected districts: Pemba, Metuge, Mecúfi, Macomia, Quissanga, and Ibo. The number of facilities reporting daily malaria cases in these districts decreased from 31 facilities in week 18 to 24 facilities in week 22.

For week 22, 17 facilities were able to be matched to their facility-specific historical averages for the same time of year. Twelve sentinel facilities were selected for consistent malaria reporting since 1 May (9 in Pemba, 1 in Macomia, and 2 in Metuge districts). The number of weekly malaria cases reported by the sentinel sites remained steady from week 21 to 22 (Figure 4) and within historical levels. The sentinel sites in Metuge remained at the upper limits of their historical levels.

For week 22, 2 of the 17 facilities (12%), one in Metuge and one in Pemba districts, reported weekly cases more than 25% above their facility-specific historical averages for the same time of year. Cases for both these facilities exceeded the upper 95% confidence interval of their historical average (Table 4 and Figure 6).

Interpretation of the facility-level comparisons with historical data should be done with caution, given population movements post-Cyclone Kenneth. Thus, an increase in cases may not necessarily represent an outbreak, but could reflect increased population in the facility’s catchment area or improved reporting.
Cholera reporting

During the reporting period, suspect cholera cases were reported by CTCs, health centres, and hospitals. As of 2 June 2019, the following sites were reporting:

**Table 1. Sites reporting suspect cholera cases, Cabo Delgado Province (27 May – 2 June 2019)**

<table>
<thead>
<tr>
<th>Type</th>
<th>Number reporting</th>
<th>Locations</th>
</tr>
</thead>
<tbody>
<tr>
<td>CTC</td>
<td>3</td>
<td>One in Pemba, one in Metuge and one in Mecúfi</td>
</tr>
<tr>
<td>CTU</td>
<td>2</td>
<td>Both in Pemba</td>
</tr>
</tbody>
</table>

The number of sites reporting per day increased from two on 1 May to a peak of five on 12 May.

Sites report daily the number of new suspect cholera cases identified, disaggregated by age-group (cumulative n = 266). In addition, the age, sex, clinical symptoms, treatment plan, and bairro are reported with some delay (cumulative n = 266). Figures in this report utilize the aggregated data unless otherwise specified.

### Cholera outbreak case definition

**Suspect case**
Age greater than 2 years, acute diarrhea with rice water appearance, with or without vomiting, with signs of dehydration.

**Confirmed cases**
Any suspect case with laboratory confirmation (isolation of *V. cholerae* O1 or O139 in stool sample).

![Table 2. Number of suspect cholera cases, attack rate and deaths by district, Cabo Delgado Province (1 May – 2 June 2019)](image)

<table>
<thead>
<tr>
<th>District</th>
<th>New Cases</th>
<th>Cases</th>
<th>Population</th>
<th>Deaths</th>
<th>Attack Rate (per 100 000 population)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cidade de Pemba</td>
<td>14</td>
<td>208</td>
<td>200 529</td>
<td>0</td>
<td>104</td>
</tr>
<tr>
<td><em>Mecúfi</em></td>
<td>0</td>
<td>17</td>
<td>40 433</td>
<td>0</td>
<td>42</td>
</tr>
<tr>
<td><em>Metuge</em></td>
<td>3</td>
<td>41</td>
<td>86 866</td>
<td>0</td>
<td>47</td>
</tr>
<tr>
<td>Total</td>
<td>17</td>
<td>266</td>
<td>327 828</td>
<td>0</td>
<td>81</td>
</tr>
</tbody>
</table>

*In previous bulletins, cholera data in Table 2 for Mecúfi and Metuge districts were incorrectly switched. This error is regretted and has been corrected for the week 22 bulletin.*

![Table 3. Diagnostic testing of RDT-positive suspect cholera cases, Cabo Delgado Province (1 May - 27 May 2019)](image)

<table>
<thead>
<tr>
<th>Site</th>
<th>Cultures on RDT-positive Samples</th>
<th>Positive Cultures</th>
<th>Pending Cultures</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hospital Provincial de Pemba</td>
<td>25</td>
<td>22</td>
<td>0</td>
</tr>
<tr>
<td>CS Murrebue</td>
<td>3</td>
<td>3</td>
<td>0</td>
</tr>
<tr>
<td>CTC Metuge</td>
<td>18</td>
<td>17</td>
<td>0</td>
</tr>
<tr>
<td>Total</td>
<td>46</td>
<td>42</td>
<td>0</td>
</tr>
</tbody>
</table>
Figure 1. Suspect cholera cases by day of reporting, Cabo Delgado Province (1 May – 2 June 2019) (n = 266)

Figure 2. Suspect cholera cases by day of reporting and age group, Cabo Delgado Province (1 May – 2 June 2019) (n = 261)

Figure 3. Suspect cholera cases by day of reporting by affected district, Cabo Delgado (1 May – 2 June 2019)
Malaria weekly case reporting

![Graph showing weekly malaria cases at sentinel sites](#)

**Figure 4. Weekly reported malaria cases at sentinel sites (1 May – 2 June 2019)**

*Sentinel sites are facilities which have reported daily to MOH for at least 90% of days since May 1. Sentinel sites consist of 9 in Cidade de Pemba, 2 in Metuge and 1 in Macomia.

<table>
<thead>
<tr>
<th>Site</th>
<th>District</th>
<th>Cases of Malaria (Week 22)</th>
<th>Weekly Historical Average*</th>
<th>% Above Historical Average</th>
<th>Number of Cases Above Historical Average</th>
</tr>
</thead>
<tbody>
<tr>
<td>CS Metuge**</td>
<td>Metuge</td>
<td>442</td>
<td>316.8</td>
<td>40%</td>
<td>125.2</td>
</tr>
<tr>
<td>CS Eduardo Mondlane**</td>
<td>Cidade de Pemba</td>
<td>143</td>
<td>103.5</td>
<td>38%</td>
<td>39.5</td>
</tr>
</tbody>
</table>

*Data for week 22 from 17 facilities reporting post-Kenneth were matched to their historical weekly reporting (BES/SIS-MA) from 2017 and 2018. Historical average is mean of weekly RDT-positive cases for weeks 20-24 of 2017 & 2018 from the same facility. An increase does not necessarily imply an outbreak, but could reflect increased population movement to the facility’s catchment area or improved reporting.

**Weekly cases exceed the upper 95% confidence interval of historical average**
Figure 5. Post-cyclone Kenneth weekly reported malaria by district, as compared to historical trends, at sentinel sites*

*Source for Post-Kenneth is daily RDT-confirmed cases, aggregated to weeks, from 12 sentinel facilities selected for consistent reporting since 1 May. Sentinel facilities consist of 9 in Cidade de Pemba, 2 in Metuge and 1 in Macomia. Source for Pre-Kenneth is weekly RDT-confirmed cases as reported to BES, restricted to the same sentinel facilities.
Figure 6. Weekly reported malaria cases, as compared to facility-specific historical average, 27 May - 2 June 2019

POINT COLOR - Percent above historical
- Below historical
- 0% - 20%
- 21% - 40%

POINT SIZE - Number of cases above historical
- Below historical
- 0 - 30
- 31 - 100
- 101 - 126

Shown are 17 facilities reporting to MOH that matched to weekly historical surveillance data (BES). Historical for each facility is mean of weekly RDT-confirmed cases for weeks 20-24 of 2017 & 2018 from the same facility. Increased cases at a facility does not necessarily imply an outbreak, but could reflect increased population movement to the facility’s catchment area post-cyclone, or improved reporting. Basemap source OpenStreetMap.
Acknowledgments

INS and WHO greatly acknowledge all partners who have contributed to strengthening the surveillance system and reported data used in this bulletin, in particular CDC, AMI, CDC-Europe, IANPHI, Zenysis and IFRC e MSF.

Data are subject to delays in case confirmation and reporting, as well as ongoing data cleaning. Report intended for planning purposes.