Republic of South Sudan

EARLY WARNING AND DISEASE SURVEILLANCE BULLETIN
(IDP CAMPS AND COMMUNITIES)

Week 12  17th – 23rd March, 2014

General Overview

- Reporting continues to improve: a total of 17 sites reported in week 12, as compared to 13 in week 11.
- Four suspected cases of cholera in Tongping were found to be NEGATIVE for cholera by AMREF laboratories. Preparations are nevertheless underway for a possible cholera outbreak in the near future as a result of the arrival of the rainy season.
- There is an outbreak of acute bloody diarrhoea in Bentiu due to a breakdown in the town water treatment system, and consequent use of river water for drinking.
- Measles cases have continued to increase in Yuai; a vaccination campaign has begun to address this.
- Malaria cases are reported to have increased in Bentiu and Bor.
- Under-5 and crude mortality rates remain below the emergency thresholds.

Note: Based on reader feedback, beginning this week all priority diseases data will be presented as proportionate morbidity (i.e., the number of cases of a specific disease, divided by the total number of consultations). This will adjust for fluctuations in the total number of consultations or in the number of sites reporting.

Consultations (All Conditions Seen at Outpatient and Inpatient)

- The total numbers of consultations reported in week 12 were 13107 as compared to 11164 in week 11.
- The average number of consultations per site has decreased in the past few weeks (Figure 1).

Figure 1

Average Consultations per Site per Week

<table>
<thead>
<tr>
<th>52</th>
<th>51</th>
<th>02</th>
<th>03</th>
<th>04</th>
<th>05</th>
<th>06</th>
<th>07</th>
<th>08</th>
<th>09</th>
<th>10</th>
<th>11</th>
<th>12</th>
</tr>
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<tr>
<td>704</td>
<td>311</td>
<td>795</td>
<td>963</td>
<td>1044</td>
<td>1035</td>
<td>698</td>
<td>694</td>
<td>875</td>
<td>715</td>
<td>758</td>
<td>1074</td>
<td>925</td>
</tr>
</tbody>
</table>

Epidemiologic Week: 2013 2014

Overall Trends of Priority Epidemic-prone Diseases

This Bulletin is produced by MOH, RSS with Technical support from WHO
Figure 2 shows the trends of acute bloody diarrhea, malaria, suspected measles, and acute watery diarrhea in the IDP camps and communities. Acute watery diarrhea and malaria remain by far the greatest burdens. Breakdown by disease follows.

Cumulative reported totals since December 15, 2013 are as follows:
- Acute Watery Diarrhea: 17,633
- Acute Bloody Diarrhea: 2,459
- Measles: 912
- Malaria: 18,818

Specific Priority Epidemic-Prone Diseases

Acute Respiratory Infection (ARI)

Because of the high burden of ARI amongst IDP populations and the potential for outbreaks of disease caused by respiratory pathogens (e.g., influenza, respiratory syncytial virus), it is important to track ARI amongst the IDPs.

There is not currently a field for ARI in the national IDSR reporting form. Hence, partners have agreed to report ARI under the heading of Severe Acute Respiratory Syndrome (SARS). It is recognized that this category was developed for detection of SARS-related coronavirus; however, during this crisis, it will be used to capture the total number of ALL acute respiratory infections.

- All partners are requested to begin reporting ARIs amongst IDPs under the IDSR heading “SARS”
  - Partners who record upper and lower respiratory tract infection consultations separately should combine the two and report them under SARS.

Acute Watery Diarrhea (AWD)

The trend for acute watery diarrhea is reflected in Figure 3 below. Acute watery diarrhea rates continue to increase. The largest number of cases were reported from Yida (n=366), Tongping (n=286) and Bentiu (n=240).
On Friday March 19th, MSF in Tongping IDP Camp reported a cluster severe acute watery diarrhea in four children aged under 5 years, all from a single family.

- Two patients tested positive for cholera by rapid diagnostic test.
- An emergency task force was put in place and activities were initiated for a possible cholera outbreak, including the establishment of a cholera treatment centre (CTC) by MSF at Tongping, development of a Health/WASH Response Framework, and development of a clinical treatment algorithm.
- Diagnostic samples from the four patients forwarded to AMREF laboratory in Kenya were ultimately found **NEGATIVE for cholera** or other pathogens.
- Nevertheless, with the approach of the rainy season, partners have continued preparations for a likely eventual cholera outbreak.
- **All sites should review their capacity to respond to a cholera outbreak.** The Response Framework is being circulated at both the national and sub-national level to aid in mapping capacities.
- Use of RDT kits for cholera detection should be expanded in all health facilities on patients with acute watery diarrhea, in order to detect the possible onset of cholera. The highest priority should be for any cluster of patients (e.g., from a single family or a large number of cases presenting at the same time). Please report number of tests conducted. Report any RDT-positive patients immediately and collect stool sample or rectal swab from them for sending for laboratory confirmation of *Vibrio cholerae*.
- With the impending arrival of the rainy season, partners should accelerate efforts to reduce the incidence of diarrheal disease (e.g., through health and hygiene promotion, improvement of sanitary conditions wherever possible).
- All partners are also encouraged to vaccinate themselves with OCV in order to reduce transmission to themselves, their colleagues, and their beneficiaries.

**Figure 3**

**Proportionate Morbidity Due to Acute Watery Diarrhea**

*Week 4 2014 - Week 12 2014*

- 12.7% 16.8% 11.9%
- 8.9% 9.2% 10.6%
- 9.1% 10.8% 12.3%

**Dysentery / Acute Bloody Diarrhea (ABD)**

- Figure 4 below shows a sharp rise in acute bloody diarrhea cases. The largest number of cases came from Bentiu, which reported 80 cases in week 12, as compared with an average of 18 cases per week in the preceding six weeks.
- These cases were reportedly due to a breakdown of the Bentiu town water treatment plant, leading to drawing of water for the POC directly from the river.
- As a result, WASH partners in Bentiu are intensifying health education for the communities, providing house to house demonstrations of household water treatment, and distributing Aquatabs. There are also plans to drill a borehole. IRC report that they have put up ORT corners and are also doing individualized counseling on the importance of treating drinking water.
Early Warning and Disease Surveillance System

- No samples have been taken for testing, due to a lack of appropriate laboratory equipment. WHO is exploring how to assist with this gap.
- Because of the risk of *Shigella dysenteriae* type 1 (Sd1), clusters of ABD from any camp should be reported immediately for investigation and every effort should be made to obtain stool samples for culture.

**Figure 4**

![Proportionate Morbidity Due to Bloody Diarrhea Week 4 2014 - Week 12 2014](image)

**Measles**

Measles cases have levelled off (Figure 5).

- Forty-five (45) of the 58 cases reported this week were from Yuai. MSF in Yuai has initiated a measles vaccination campaign to address this issue.

**Figure 5**

![Proportionate Morbidity Due to Suspected Measles Week 4 2014 - Week 12 2014](image)

**Malaria**

- There has been a steady rise in reported malaria cases over the last three weeks (Figure 6), likely due to the recent rains and concomitant drainage issues in some of the camps.
  - There is a need for camp managers to improve the drainage in the camps to limit vector breeding
The distribution of bed nets and Integrated Vector Management support to the camps should be prioritized.

By site, the greatest proportionate morbidity was seen in Bentiu and Bor (Figure 7). These percentages are increased dramatically over the past two weeks, as compared with the weeks prior.

- In Bentiu, this increase is driven by increased cases reported by CARE and IRC, while IOM does not report an increase.
- There is a need to follow up with CARE and IRC to determine if there is truly an increase in malaria cases, and if so, what is the underlying cause.
- In Bor, IRC confirms a rise in malaria cases, reportedly due to drainage issues and also incomplete distribution of bednets. IRC is in discussions with the Malaria Consortium on ways forward.
- As malaria is likely to continue to increase in all locations with the onset of the rainy season, capacity for malaria case diagnosis and management should be strengthened in all IDP camps.

No malaria deaths were reported; this is highly suspect, given the large number of cases. There may be under-reporting of deaths due to malaria.

- The number of patients tested by malaria RDT, and positive cases must be reported
- Health facilities are encouraged to ascertain cause of death as accurately as possible and report any deaths caused by malaria.

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Figure 6

**Proportionate Morbidity Due to Suspected Malaria, Week 4 2014 - Week 12 2014**

<table>
<thead>
<tr>
<th>Percent of total consultations</th>
<th>Epidemiologic Week</th>
</tr>
</thead>
<tbody>
<tr>
<td>18%</td>
<td>11.4%</td>
</tr>
<tr>
<td>15.4%</td>
<td>11.8%</td>
</tr>
<tr>
<td>13.9%</td>
<td>11.1%</td>
</tr>
<tr>
<td>16.0%</td>
<td>9.4%</td>
</tr>
<tr>
<td>11.8%</td>
<td>8.8%</td>
</tr>
<tr>
<td>11.1%</td>
<td>9.8%</td>
</tr>
<tr>
<td>4%</td>
<td></td>
</tr>
<tr>
<td>2%</td>
<td></td>
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<tr>
<td>0%</td>
<td></td>
</tr>
</tbody>
</table>

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Figure 7

**Proportionate Morbidity Due to Malaria, by Camp, Week 7 - 12 2014**

- Bentiu
- BOR
- Malakal
- UN HOUSE
- Yida
- Yuai
- Tongping
Meningitis

- 2 Cases of meningitis were reported from Kajo Keji, a 55-year-old male who died, and a 14-year-old female who recovered. This brings the total cases in Kajo Keji over the past 6 weeks to 11, with 4 deaths (CFR=36%). No samples have been taken for testing due to lack of local capacity.
  - If other partners are traveling from Juba to Kajo Keji, they are requested to liaise with WHO so that joint support could be provided to assist with this request.
- Laboratory results on two cases from Juba in week 10 show growth of S. aureus, a likely contaminant. These data once again highlight that appropriate collection and transport of samples to confirm meningitis remains a challenge.
  - There is an urgent need to improve sample collection and transport to confirm the etiology of observed meningitis cases, in order to inform possible vaccination campaigns.
  - Where possible, clinics should use the Pastorex rapid test at the point-of-care to get a presumptive diagnosis and typing of N. meningitidis, prior to onward referral for bacterial culture.

Other diseases of public health importance

- The suspected case of Acute Flaccid Paralysis (AFP) reported in Mingkaman in week 11 was ruled out for polio (it was determined that the paralysis was longstanding).
- No VHF, NNT, AFP reported for week 12
- Two additional cases of hepatitis E reported amongst refugees in Yida (cumulative cases is 644).
- Seven dog bite cases, from two potentially rabid dogs have reported in Kajo Keji. This brings the total since mid-February to 21, including one death compatible with rabies in a 11-year-old boy. Five of the seven patients have completed post-exposure prophylaxis vaccination; WHO is supplying additional vaccine to complete vaccination for the remaining two.
  - The burden of dog bite and rabies is currently poorly understood. For example, it is not clear whether the experience in Kajo Keji is the exception or the rule. There is also a risk of rabies in the IDP camps, as there are many unvaccinated stray dogs present in the camps.
  - Partners are requested to report all dog bite cases.
  - Partners are encouraged to provide education about animal bite avoidance / health seeking to their IDP beneficiaries.

All-Causes Mortality Data

- As reported previously, most deaths are occurring in the camp community setting rather than under clinical observation.
- It is critical to understand why people are dying so that we can intervene, yet there are two main barriers:
  - Based on discussions with members of the camp community, there is a cultural taboo about talking about dead people.
    - Some deaths may go un-reported
    - Cause of death is rarely known because no-one wants to talk about it
    - All partners must work to break the silence
  - Most deaths have occurred in the camp rather than attended by clinicians, so cause difficult to ascertain
    - All partners must do more to advocate for early health seeking behavior.
**Under-five mortality rate (U5MR)**

The under-five mortality rate in all IDP camps (Figure 8) have been below the emergency threshold (U5MR: ≥ 2 per 10,000 per day) since week 9.

Figure 8

![Under-5 Mortality Rate per 10,000 persons per day](image)

(note: the apparent rise in Bentiu is due to a single death)

**Crude mortality rate (CMR)**

The crude mortality rates (Figure 9) have remained below the emergency threshold (CMR: ≥ 1 per 10,000 per day) in all IDP camps since week 6.

Figure 9

![Crude Mortality Rate per 10,000 persons per day](image)

1 The U5MR is calculated using a denominator of 20% of the overall population in each camp (i.e., it is assumed that 20% of the population is <5yo)
General Recommendations

- Integrated health services should be improved and expanded in all IDP camps
- Ensure timely and good quality of morbidity and mortality data from all IDP camps including line listing of all suspected cases of measles using the standard line list.
- Strengthen disease surveillance system for timely detection, reporting and response to outbreaks and other public health events
- Vaccination of new arrivals and routine immunization in IDP camps and POCs to prevent future outbreaks.
- All dog bites should be reported and investigated.
- Improve on cross border surveillance by sharing epidemiological information with neighbouring countries that have received influx of refugees from South Sudan.
- We are keen to renew monitoring of injuries – If not already doing so, please report on injuries through the IDSR system
- Please send all disease surveillance information and any outbreak rumours to outbreak_ss_2007@yahoo.com. IDSR reports should be submitted by Monday evening after the close of each epidemiologic week.

For comments or questions, please contact

Surveillance Department, MoH-RSS
E-mail: outbreak_ss_2007@yahoo.com, HF radio frequency: 8015 USP; CELL CALL: 7002

Data current as of 12:01AM Friday, March 28, 2014