Briefing Note – 07 April 2017

# South Sudan

## Cholera outbreak in Mingkaman, Awerial County, Lake State

| | Not required | Low | Moderate | Significant | Major |
|---|---|---|---|---|---|
| Need for international assistance | | | x | | |
| | Very low | Low | Moderate | Significant | Major |
| Expected impact | | | x | | |

## Crisis overview

671 cholera cases have been reported in Awerial county, Lakes, since June 2016, of which at least 117 are new cases since 6 March. Most new cases have been reported in Mingkaman IDP camp. The case fatality rate (CFR) is 1.49% - or ten deaths.

A lack of WASH facilities has been reported, further spreading the outbreak. The upcoming rainy season, from May/June onwards, will also likely further deteriorate the WASH situation and result in an increased number of cholera cases.

Neighbouring Yirol East county has also experienced an increase of cholera cases, as reported below. Movement of population between the two counties may trigger a wider spread of the outbreak.

| Affected areas | Total cases since June 2016 | Total Cases since 6 March (ratio) | Total death (CFR) |
|---|---|---|---|
| Eastern Lakes | 1,109 | 155 (13.9%) | 45 (4.06%) |
| Awerial county | 671 | 117 (17.4%) | 10 (1.49%) |
| Yirol East county | 438 | 38 (8.7%) | 35 (7.99%) |

Sources: WHO 31/03/2017, 24/03/2017, 17/03/2017.

**Anticipated scope and scale**

Given the high density of population in the camp, the lack of WASH facilities, and the recent increase of cholera cases, a wider spread of cholera outbreak is expected. Floods, as a consequence of the upcoming rainy season (May-June to October) will further deteriorate the situation within the camp, with expected new cholera cases.

**Priorities for humanitarian intervention**

- WASH: Need for clean/drinking water distribution points, sanitation facilities

  Health: Enhance response capacity to suspected and confirmed cholera cases, ensure cholera vaccination campaigns

**Humanitarian constraints**

Access in Awerial county is relatively better than in conflict-affected areas. However, recent attacks against humanitarian workers in neighbouring areas may affect access. Upcoming rainy season will further constrain access logistically, as Mingkaman is located near the Nile.

**Limitations**

Lack of information regarding the state of WASH facilities. Breakdown between the different locations of Mingkaman IDP camps would be useful.

Lack of information regarding health response, capacity, medicine available.

Lack of information regarding the location outside the camp of the new cases reported since 6 March.

## Crisis impact

As of 31 March, since the cholera outbreak started in June 2016, a total of 5,856 cases have been reported in Lakes state, of which 671 cases were reported in Awerial county (WHO 31/03/2017). Since 6 March, a total of 117 new cases - or 63% of all new cases in South Sudan – have been reported in Awerial county (WHO 31/03/2017, 24/03/2017, 17/03/2017). Most of the new cases have been reported from Mingkaman, Awerial county (UNICEF 31/03/2017). The Case Fatality Rate (CFR) is 1.49%, with ten fatal cases reported since June 2016. This is one of the lowest in South Sudan (WHO 31/03/2017).

Across South Sudan, the cholera outbreak has been caused by consumption of untreated water from the Nile River and contaminated food from market vendors due to poor hygiene practices. Open defecation, poor latrine use, and decreased access to water have been prompted by escalation of fighting in early July 2016.

However, the outbreak has continued through the dry season due to the usage of untreated water, the persisting conflict, lack of humanitarian access - particularly in southern Unity state, which is located north of Yirol East county, Lakes state (UNICEF 31/03/2017).

The cholera cases in Mingkaman have been reported in areas where informal settlements lack or have no access to safe water and sanitation facilities (UNICEF 15/02/2017). Regular influx of IDPs throughout 2016 in Mingkaman have put WASH facilities under pressure (UNICEF 12/2016).

### Factors affecting efforts to control outbreak

**Limited humanitarian access:** Despite being relatively more stable than neighbouring states, there are reports of violence against humanitarian workers in Lakes state. On 14 March, two humanitarian staff responding to a cholera outbreak were killed in Yirol East county. (The Star 16/03/2017). Following the incident, three organisations have temporarily suspended their activities in Yirol East county (Radio Tamazuj 23/03/2017).

Lack of access in southern Liech, Unity state due to insecurity has prevented interventions and control of the cholera outbreak, which has triggered the spread of the disease to other areas, including Awerial county (WHO 31/03/2017).

Vaccination campaigns have been implemented. However, limited access has reduced the scope of intervention, therefore limiting the efficacy of the campaign (UNICEF 31/03/2017).

### Vulnerable groups affected

Children and youth are especially at risk of cholera. In Awerial county, the population from 0 to 19 years old accounts for 55% of all cholera cases (WHO 31/03/2017).

## Aggravating factors

### Upcoming rainy season

The rainy season starts from May onwards and lasts until October. This usually contributes to a spike of waterborne diseases, including cholera cases (International Medical Corps 21/09/2016). Given that the current outbreak has already reached high levels, the rainy season will likely severely deteriorate the situation, especially, given that Mingkaman camp is in a flood prone area. Latrines were flooded during the 2016 rainy season (UNICEF 25/08/2016).

### Ongoing cholera outbreak in Yirol East county, Lakes state.

As of 31 March, 438 cholera cases have been reported in Yirol East county since June 2016. Similar to Awerial county, a spike in the number of reported cases has been observed in 2017, with 90 new cases since 27 February. The CFR is also higher, at 7.99%, with 35 cholera-related deaths (WHO 31/03/2017, 24/03/2017, 17/03/2017, 10/03/2017). If there is population movement between the two close counties, a wider spread of the outbreak may occur.

### Security and health situation in Jonglei state.

Neighbouring Bor South county, in Jonglei state has experienced a recent outbreak of cholera since February. As of 31 March, 87 cases have been reported, including 5 fatal cases (CFR: 5.75%) (WHO 31/03/2017). A lack of access to health facilities for the population living in Bor South islands has been reported and may result in a high CFR for cholera cases, further spreading the outbreak (WHO 03/03/2017).

Violence has increased since February in southern Jonglei state. This has caused significant movement of the population within Jonglei, and possibly to neighbouring areas (Radio Tamazuj 08/03/2017).

### Population density of Awerial county, and in Mingkaman IDP camp

Mingkaman IDP camp and the neighbouring informal settlements host around 120,000 people, in addition to a 60,000 local population in the county. High density levels within the overcrowded Mingkaman camp further drive a risk of widespread outbreak. In August 2016, an anticipated estimate of potential cholera cases totalled 5,700 people (UNICEF 31/08/2017, UNFPA 22/03/2017).

### Humanitarian constraints

Cholera response activities were severely disrupted at the beginning of March, as aid workers have to relocate frequently due to limited capacities and equipment. People living on islands along the Nile were not accessible, including affected people in Yirol East county (WHO 03/03/2017).

### Economic crisis

The dire economic situation across the country has forced households to resort to using unsafe water sources as water prices have increased, especially from water trucks (WHO 03/03/2017).

## Contextual information

### Cause and symptoms

Cholera is an acute intestinal infection caused by the ingestion of food or water contaminated with the bacterium *Vibrio cholerae*. It has a short incubation period, from less than one day to five days. Symptoms include copious, often painless, watery diarrhoea that can quickly lead to severe dehydration and death if not promptly treated. Vomiting also occurs in most patients. If left untreated, cholera can kill within hours (WHO, 29/07/2014).

### Treatment

80% of cholera cases can be successfully treated with oral rehydration salts. Very severely dehydrated patients require intravenous fluids as well as appropriate antibiotics to diminish the duration of diarrhoea, reduce the volume of rehydration fluids needed, and shorten the duration of *V. cholerae* excretion (WHO, 29/07/2014). Early diagnosis and treatment to cholera significantly reduce the CFR (The Nile 01.08.2016)

### Previous outbreaks

Cholera outbreaks in South Sudan are recurrent. In 2015, 1,735 cases were reported, including 47 deaths; in 2014, 6,421 cases were reported, including 167 deaths (WHO 09/09/2015; WHO 14/12/2014).

### Risk factors

Cholera transmission is closely linked to inadequate environmental management. Typical at-risk areas include places where the minimum requirements of safe water and sanitation are not met. Where cholera bacteria are present or introduced, the disruption of water and sanitation systems, or the displacement of populations to inadequate camps can increase the risk of transmission (WHO, 29/07/2014).

### Vaccines

Although effective control measures rely on prevention, preparedness, and response, oral cholera vaccines of demonstrated safety and effectiveness have recently become available. Their use in emergency situations, although accepted, still remains a challenge and must be complementary to existing strategies for cholera control. Some countries have already used oral cholera vaccines to immunise populations considered at high risk for cholera outbreaks. Work is ongoing to investigate the role of mass vaccination as a public health strategy for protecting at-risk populations against cholera (WHO 10/2016, WHO 29/07/2014).

## Key characteristics

**Demographic profile:** Lakes state: 1,113,716, Awerial county 180,000, Mingkaman Camps: 120,000 (IPC Info 20/02/2017, UNFPA 22/03/2017).

**Food security** Lakes region: IPC 1: 320,000; IPC 2: 450,000, IPC 3: 355,000; IPC 4: 100,000; Awerial county: population is at risk of IPC 3 food insecurity as they rely on on humanitarian assistance (IPC Info 20/02/2017).

**Nutrition:** High rates of malnutrition are reported countrywide, with an estimated one million children acutely malnourished, including more than 273,600 severely malnourished (OCHA 10/03/2017, OCHA 14/02/2017).

**Health** 72,600 people in need of health assistance in Awerial county (OCHA 06/04/2017).

**WASH:** 123,800 people in need of WASH assistance in Awerial county (OCHA 06/04/2017).

**Lighting and cooking:** Only 1% of South Sudan's population is connected to the electricity grid. More than 96% use firewood and charcoal for household heating and cooking (African Development Bank 10/2012).

## Response capacity

### Local and national response capacity

As of 3 March, it was reported that the South Sudanese ministry of health has deployed a rapid response team in Mingkaman and Yirol, Lakes and in Bor South, Jonglei (WHO 03/03/2017).

The first round of cholera vaccination was expected to take place from 3-7 April in Mingkaman IDP camp. A second round is scheduled later in May (WHO 24/03/2017).

### International response capacity

Several organisations and agencies, including - among others – MSF Belgium, IOM, and UNICEF have deployed teams in Mingkaman to response to the cholera outbreak, aiming at improving infection prevention and case management, along with controls of existing cholera treatment facilities (WHO 03/03/2017).

UNICEF and its local partners are providing oral rehydration points and support in tracking cholera cases. UNICEF and its local partners are delivering awareness sessions to ensure best WASH practices to food and water vendors, to pupils and other households in Awerial county, including Mingkaman IDP camp (WHO 24/03/2017).

UNICEF also provides support in Yirol East county (UNICEF 31/03/2017).

Local health staff have received training from UNICEF to respond to suspected cholera cases (UNICEF 31/03/2017).

## Information gaps and needs

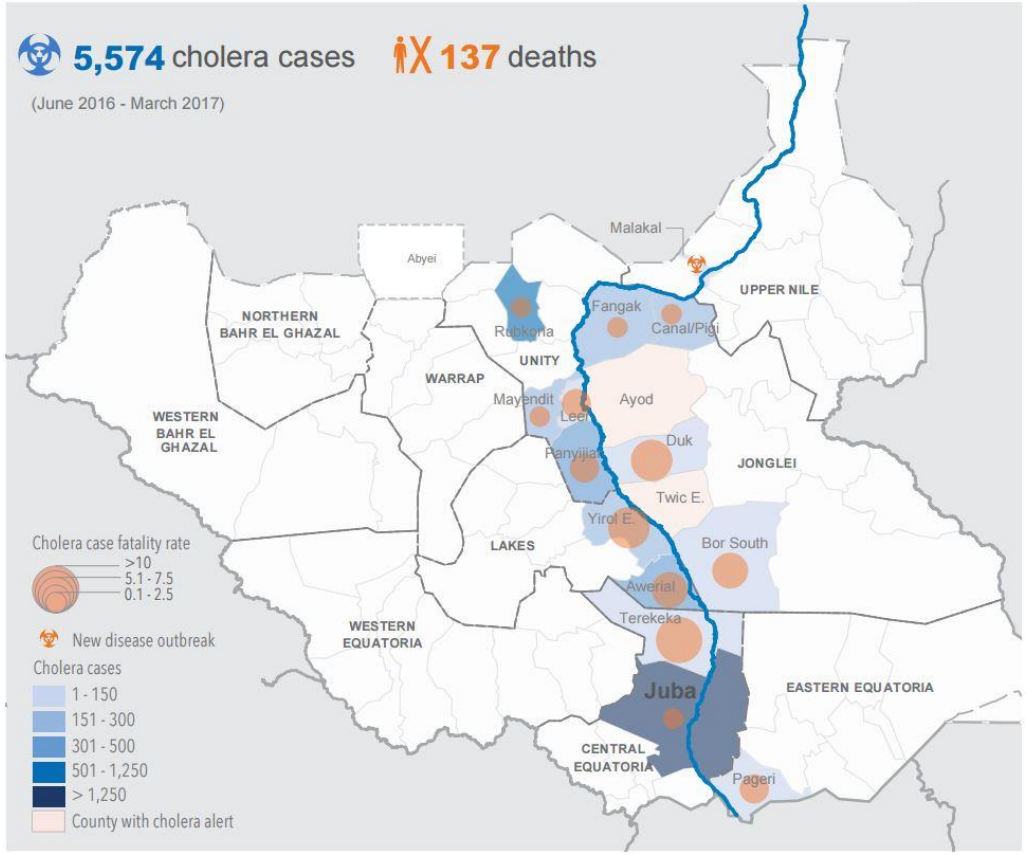
- Conflicting reports between local media and Ministry of health/WHO data regarding number of cholera cases and deaths.
- Lack of information regarding the health and WASH situation and capacities in Mingkaman IDP camp.
- Lack of information regarding local and seasonal movements of population between Yirol East, Awerial, Lakes and Bor South, Jonglei.

## Lessons learned

- Cholera outbreaks in South Sudan are recurrent. In 2015, 1,735 cases were reported, including 47 deaths in 2014, 6,421 cases were reported, including 167 deaths (WHO 09/09/2015; WHO 14/12/2014).
- The WASH response, especially the protection of water sources from contamination, must be optimised in the early stages of the epidemic. Primary prevention is centred around promoting access to safe water at home, better hygiene practices to avoid secondary transmission, and clean sanitation facilities. Main activities are chlorination at collective water sources or distribution of products for individual water treatment, dissemination of prevention messages for safe funeral practices and dissemination of messages on good hygiene practices during an epidemic, especially related to hand-washing (UNICEF, August 2011).

## Map of affected area

Cholera outbreak in South Sudan, since June 2016 as of 10 March.




Source: OCHA 10/03/2017