

Briefing Note – 16 June 2017

SUDAN

Cholera outbreak



	Not required	Low	Moderate	Significant	Major
Need for international assistance				X	
Expected impact	Very low	Low	Moderate	Significant	Major

Crisis overview

A cholera outbreak that started in Blue Nile state in August 2016 began to spread rapidly as of April this year. Conservative estimates suggest a minimum of between 15,000-23,000 people infected, with 280-820 deaths. It is currently affecting Gedarif, White Nile, Khartoum, Sennar, River Nile, North Kordofan, and Gezira states. White Nile is host to a large South Sudanese refugee population and has had the highest number of cases so far. A state of emergency has not yet been declared and response has been limited. An underfunded health system and poor WASH facilities have contributed to the spread of infection.

Anticipated scope and scale

Without immediate intervention in WASH and health sectors, infection is likely to spread further. While previously concentrated in less densely populated states, it has now spread to the capital, Khartoum, a much more densely populated area. The onset of the rainy season this month is also likely to act as an aggravating factor. The areas most at risk are White Nile and Khartoum, while the population group most at risk are vulnerable South Sudanese refugees. There is also a risk that it will spread to Darfur in the rainy season, where poor infrastructure, vulnerable IDP populations, and ongoing conflict would heighten the humanitarian impact of the outbreak.

Key priorities

- **WASH:** Lack of clean drinking water and poor sanitation facilities create favourable conditions for the spread of infection.
- **Health:** Lack of medicines, and overcrowded and understaffed health facilities are a major problem.

Humanitarian constraints

Humanitarians are denied access to populations in SPLM-N controlled areas of Sudan. Information on the health status of populations in these areas is largely unavailable.

The rainy season will hamper access to certain areas as flooding and infrastructure damage is likely between June and October.

Limitations

A government ban on reporting on cholera has resulted in a strong reliance on local sources. There is also international hesitance to refer to the current situation as a cholera outbreak. These factors have resulted in a lack of confirmed case reporting and fragmented and inconsistent reporting of suspected cases.

Cholera/AWD cases per province according to government figures as of 3 June 2017

Affected areas	Population	AWD/suspected cholera cases	No. of deaths
White Nile	1,730,588	4,442	83
Blue Nile	832,112	4,471	12
Sennar	1,285,058	2,401	14
El Gedaref	1,348,378	788	11
Kassala	1,527,214	397	12
Red Sea	1,396,110	1,137	19
El Gezira	3,575,280	982	55
North Kordofan	2,039,495	79	1
Khartoum	5,274,321	878	19
River Nile	1,120,441	387	14
South Kordofan	867,918	58	10
TOTAL	20,996,915	16020	250

Sources: Sudan Government , Dabanga. Citypopulation

Crisis impact

The current cholera outbreak started in August 2016. Caseload numbers are conflicting as there has been no official recognition of a cholera outbreak and the government refers to it as acute watery diarrhoea (AWD). Government figures state that 15,000 people have been infected and 279 have died from AWD between August 2016 and 2 June. In contrast, the National Epidemiological Corporation claims there have been at least 23,766 cholera infections and 820 deaths since the start of May alone. They have criticised the government and international aid agencies for their silence on the issue and lack of response (Dabanga 13/06/2017).

Cases first appeared in August last year in Blue Nile state. From there it spread to eastern Sudan and then to northern and central Sudan. During this time, the rate of infection was relatively slow. In April of this year, cases were reported in White Nile state, at which point infection began to spread more rapidly (Dabanga 03/06/2017). A factor that may have

contributed to this is the large South Sudanese refugee population in White Nile. Many of whom have arrived from areas of South Sudan that are also experiencing a cholera epidemic. The World Health Organisation (WHO) has said that the risk of contagion is high as refugees are facing overcrowding and a lack of WASH services in both camps and host communities (WHO 08/06/2017). White Nile has been worst affected, with over 4,400 reported suspected cases and at least 83 deaths. Underreporting of figures means that the caseload is likely to be much higher. As the outbreak has recently moved to the more densely populated capital of Khartoum, the number of cases is likely to increase.

In Darfur, the Darfur Relief and Documentation Centre (DRDC) have warned that there is a high risk of the infection spreading to conflict-affected areas of Darfur, Blue Nile and the Nuba Mountains during the rainy season (Dabanga 13/06/2017). Darfur has 2.1 million IDPs and is experiencing ongoing conflict between government and rebel forces. It has poor WASH infrastructure and there is a lack of access to clean drinking water. In 18 of the 90 IDP camps people have access to less than 7.5L of water per person per day (OCHA 31/12/2016). In the rainy season, there is an increased likelihood of people sourcing water from contaminated water sources. Severe water shortages have been reported in North Darfur as of 11 June (Dabanga 11/06/2017). If cholera spreads to these areas it would result in severe humanitarian consequences.

The case fatality rate is 1.9%. 48% of the cases that have been reported are male and 52% are female, while 9% of cases affected children under five (OCHA 04/06/2017).

WASH: The lack of access to clean drinking water, a problem deriving from poor WASH systems and infrastructure across Sudan, is the primary cause of the current cholera outbreak. Lack of access to clean drinking water is most severe in Red Sea, Darfur, and Blue Nile states (Dabanga 11/06/2017). Refugees and IDPs are particularly at risk of lacking access to clean water. In some camps, availability of water is below the UNHCR emergency standard of 20L per person per day (UNHCR 31/03/2017). About 31% of the population's drinking water comes from sources that are contaminated with industrial, domestic, and commercial waste, including excreta and urine (UNICEF 22/03/2017). While 90% of households in Khartoum and Northern state have access to safe drinking water, in Red Sea, White Nile, and Gedarif states, only a third of households have access (UNICEF 22/03/2017). The poor WASH situation in these states coincides with high incidence of infection in these states. (See map on last page)

Health: The lack of health facilities and the poor healthcare system in Sudan is a significant contributing factor to the cause and spread of the cholera outbreak. The healthcare system in Sudan suffers from a lack of funding and qualified personnel, with 36% of healthcare facilities not functioning at full capacity. There are 4.3 million people in need of health assistance in Sudan (HNO 31/12/2016).

A lack of adequate health facilities has led to the use of schools and other buildings as isolation centres for cholera patients. Sudanese doctors have pointed to the inadequacy of these spaces as quarantine facilities and attributed them to the continued spread of the disease (Dabanga 30/05/2017). In the hospitals and care facilities that are functioning, overcrowding is a major problem. There have been reports of cholera patients having to share beds, as well as reports of some hospitals in Khartoum refusing to admit patients presenting with symptoms of cholera (Dabanga 06/06/2017). A series of doctor strikes since October 2016, unsanitary facilities, shortages of medicines and intravenous fluids are all further factors exacerbating the crisis (Dabanga 18/05/2017).

The high number of cases in the cholera outbreak is straining existing hospitals and health facilities. There have been reports of cholera patients having to share beds, and some hospitals in Khartoum refusing to admit patients presenting with symptoms of cholera (Dabanga 06/06/2017).

Vulnerable groups affected

South Sudanese refugees are particularly at risk of being affected by the current outbreak. There are currently 420,000 South Sudanese refugees in Sudan, 140,000 of whom arrived in 2017. In May, approximately 2,000 arrived every day (WHO 08/06/2017). Many are coming from cholera-affected areas, which increases the threat of importation and the likelihood of the spread of the disease (WHO 08/06/2017). Most of those who arrived were suffering from malnutrition, dehydration, and diarrhoea. These factors, in addition to overcrowding and poor infrastructure in refugee camps when they arrive, make them particularly susceptible to communicable diseases such as cholera (MSF 11/05/2017; WHO 08/06/2017).

Aggravating factors

Rainy Season

The rainy season in Sudan lasts from June to October and affects approximately 200,000 people every year. As cholera is a waterborne disease, ingestion of water that has been contaminated by the cholera strain of bacteria will likely lead to infection. During the rainy season the likelihood of water contamination is higher than usual due to increased unsafe water sources (UNICEF 22/03/2017).

In addition to aggravating the spread of the disease, the rainy season generally causes flooding that results in damage to roads and other infrastructure. This could hamper the delivery of essential humanitarian health and WASH assistance to affected populations. The Health Minister has already warned that the flooding may make some areas

inaccessible, hindering the distribution of clean water and medical supplies (Dabanga 03/06/2017).

Political denial of outbreak

The government has not yet recognised the existence of a cholera outbreak. Clinics have been opened where new cases have been reported, Sudanese doctors claim that the political agenda results in concealment of test results and information by health authorities, and the deliberate underreporting of cases (Dabanga 08/06/2017; Dabanga 30/05/2017). This is problematic as it may result in populations not receiving the assistance they need to manage the outbreak.

Reporting on the outbreak is prohibited, with journalists and politicians arrested for bringing raising awareness about it. Health officials have also been targeted, with a director of a hospital dismissed from his post for mentioning cholera in the hospital. This censorship has an impact on the ability of organisations to respond to the crisis or raise awareness to mitigate the spread (Dabanga 09/06/2017).

Poor WASH and health infrastructure

A lack of adequate health facilities has led to the use of schools and other building as isolation centres for cholera patients. Sudanese doctors have pointed to the inadequacy of these spaces as quarantine facilities and attributed them to the continued spread of the disease (Dabanga 30/05/2017). In the hospitals and care facilities that are functioning, overcrowding is a major problem. There have been reports of cholera patients having to share beds, as well as reports of some hospitals in Khartoum refusing to admit patients presenting with symptoms of cholera (Dabanga 06/06/2017). A series of doctor strikes since October 2016, unsanitary facilities, shortages of medicines and intravenous fluids are all further factors exacerbating the crisis (Dabanga 18/05/2017).

The healthcare system in Sudan suffers from a lack of funding and qualified personnel, with 36% of healthcare facilities not functioning at full capacity. There are 4.3 million people in need of health assistance in Sudan (HNO 31/12/2016).

Malnutrition

Two million children in Sudan are acutely malnourished and 550,000 are severely malnourished. In White Nile, the area most affected by the outbreak, the GAM rate is over 15 % and the SAM rate is over 2% (OCHA 21/05/2017). Malnutrition can compromise a child's

immune system making them more susceptible to disease. Of some 4,400 cases reported in White Nile, 1,243 were children (UNICEF 31/05/2017).

Contextual information

Cause and symptoms

Cholera is an acute diarrhoeal infection caused by the bacterium *Vibrio cholerae*. It is usually contracted through the ingestion of contaminated water or food. If left untreated it can be fatal within hours. It is highly contagious and many of those infected do not develop any symptoms. However, if symptoms do occur they usually include diarrhoea and dehydration. A lack of clean drinking water and poor sanitation facilities are the two main factors that contribute to the spread of cholera (WHO 14/06/2017).

Treatment

Cholera can be easily treated with oral rehydration solutions. More extreme cases may require intravenous fluids. Oral vaccines can be used to control cholera but the main method of prevention consists of access to clean and safe drinking water and good hygiene practices (WHO 2016).

Response capacity

Local and national response capacity

National response capacity has been limited as the government has not yet recognised the existence of a cholera outbreak. Local response has been quite active. In White Nile volunteer groups have distributed intravenous solutions, soaps, disinfectants, and mineral water. They have also been raising health awareness in affected villages. In Khartoum, a youth initiative has launched an awareness campaign and engaged in activities related to environmental sanitation and house spraying (Dabanga 08/06/2017). In mosques, Imams are trying to spread awareness during sermons, while twitter users are also trying to bring attention to the issue (BBC 07/06/2017).

International response capacity

There has not been much information on international response for the majority of the outbreak. As of June there are reports of a WHO intervention in White Nile. (OCHA 04/06/2017). They also launched a vaccination campaign on 8 June in two refugee camps in South and West Kordofan states, with a target of over 50,000 refugees (WHO 08/06/2017).

Much of the response seemed to be focused in White Nile and directed primarily towards refugees. Response will need to be scaled up and extended to other areas if the outbreak is to be controlled. Doctors on the ground have criticised the lack of international response to the crisis so far (Dabanga 13/06/2017).

The work of the health cluster in Sudan is unclear and there has been a continual decrease in the number of organisations and aid workers operating there since the expulsion of 13 INGOs in 2009 (OCHA 01/06/2016).

Information gaps and needs

Accurate information on the number of people infected and the number of deaths as a result of cholera were difficult to obtain. While sources were triangulated to try and improve accuracy, the figures provided are approximate, and the number of cases likely much higher than what has been reported.

Information on the health status of populations in SPLM-N areas is largely unavailable.

Key characteristics

Affected state	White Nile	Khartoum	Sennar	River Nile	Gedarif	Gezira	North Kordofan	Total
Overall population	The population of Sudan is 41,916,461, 49.6% of whom are female and 50.4% male. 42.1% of the population are under the age of 15.							41,916,461
Total population in areas currently affected	1,730,588	5,274,321	1,285,058	1,120,441	1,348,378	3,575,280	2,039,495	16,373,561
Population density and urban composition	22/km ² (2015 estimate for Sudan). 33% urban, 67% rural							
South Sudanese refugees as of 31/05/17	160,071	35,707	N/A	N/A	N/A	N/A	1689	
WASH	48.7% of urban households have access to improved water and sanitation sources compared to 19.1% in rural areas.							3,500,000
Health	The under-five mortality rate is 720/100,000 live births and the maternal mortality rate is 311/100,000 live births.							4,300,000
Food security	The majority of the country is experiencing Stressed (IPC Phase 2) or Crisis (IPC Phase 3) levels of food insecurity but during the lean season from June to September, some areas are expected to deteriorate to Emergency (IPC Phase 4).							3,600,000
Nutrition levels	573,000 children suffer SAM, while 1,627,000 are affected by MAM. Overall, the GAM rate is 16.3% and the caseload is 2,200,000							2,200,000
Literacy rates								76%

Sources: HNO 2017, Countrymeters 2017, UNHCR 2017, UNICEF 2016

Sudan suspected cholera cases and WASH severity

