

Briefing Note – 18 May 2017

YEMEN

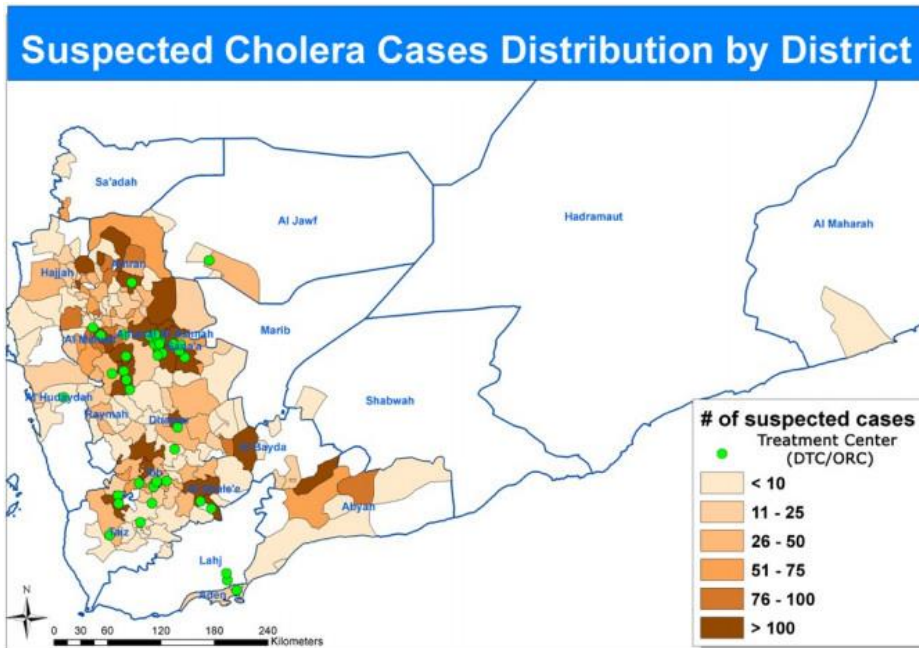
Cholera outbreak



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

Crisis overview

A cholera outbreak was reported in Yemen on 27 April. Since then, the number of acute watery diarrhoea (AWD) or suspected cholera cases has increased to reach over 17,200, including 209 deaths, and the infection rate is rising quickly. The outbreak has affected 18 districts: Sana'a City (Amanat al Asemah) is the most heavily affected area, with over 4,000 suspected cases. A state of emergency has been declared in the governorate.



Map Source: Health Cluster, WASH Cluster 14/05/2017

Anticipated scope and scale

The number of cases is expected to continue rising, due to the poor state of the healthcare system and lack of access to safe clean water sources for much of the population. The case fatality rate is 1.2%, and approximately 3,000 new cases are being reported each day. Without urgent action, the situation is likely to worsen considerably: 7.6 million people live in areas at high risk of transmission.

Key priorities

- **WASH:** 14.5 million people are in need of WASH assistance, and lack consistent access to safe water, of which 8.2 million people are in acute need. The worst affected areas are in the west of the country, where cholera cases have now been declared.
- **Health:** 14.8 million people lack access to adequate healthcare services. Only 45% of healthcare facilities across the country are functioning at present. In areas where healthcare is available, cost of services is a barrier to access. Lack of availability and cost of services are preventing cholera-affected people from accessing immediate medical assistance.

Humanitarian constraints

- A de facto blockade on all imports, including humanitarian aid, is causing significant difficulties in importing adequate medical supplies, food and fuel to meet the country's needs.
- 31% of Yemen's 333 districts face moderate to severe access constraints, making it very difficult for humanitarian agencies to reach people in these areas with assistance.
- Active conflict is ongoing in several areas of the country; particularly Taiz and al Hudaydah. Both governorates have declared cholera cases.

Limitations

The dire state of the healthcare system throughout the country means it is very difficult to gain accurate figures on suspected and confirmed cases. It is likely that the number of deaths and suspected cases is higher than has been reported. Rural areas are particularly difficult to access. Confirmation of cholera is difficult to obtain as most medical laboratories have ceased to function.

Crisis impact

17,200 suspected cholera/AWD cases have been reported across 18 out of the 22 governorates since 27 April. 209 people have died (AhlulBayt News Agency 17/05/2017; Al Masdar News 17/05/2017). The case fatality rate currently stands at 1.2%. Approximately 3,000 new cases are being reported per day, and the rate is likely to continue rising (AhlulBayt News Agency 17/05/2017).

An estimated 7.6 million people live in areas at high risk of transmission (WHO 12/05/2017). Sana'a is the most affected area, where people are in primarily urban and densely populated settings (WHO 16/05/2017). Primarily the west of the country is affected, where fighting is concentrated: Sana'a, Amran, Hajjah, Ibb, Al Mahweet, Al Bayda, Dhamar, Al Dhale'e, Taiz, Abyan, Raymah, Al Hudaydah, Aden, Sa'ada, Al Jawf, Shabwah and Al Mahrah (WASH Cluster, Health Cluster 14/05/2017).

Lack of access to adequate healthcare means that cholera is likely to remain undiagnosed, and as a result is more likely to be fatal and to spread further. According to the most recent comprehensive assessment, 14.8 million people lack access to adequate healthcare services and are in need of assistance, including 8.8 million who are in acute need (OCHA 23/11/2016). However, it is likely that this number has risen further since the assessment was conducted.

As of March, the country was only receiving 30% of the medicine that used to enter the country before the escalation of conflict (OCHA 20/03/2017). 49 out of 333 districts have no qualified doctor (OCHA 09/05/2017). As a result of shortages of medicines, electricity, fuel and staff, only 45% of healthcare facilities are functioning. At least six out of 22 governorates do not have functioning healthcare systems. People with suspected cholera, even when able to access healthcare facilities, may not be able to access treatment. Healthcare services are particularly poor in Taiz as a result of ongoing fighting (MSF 31/01/2017).

Cholera cases per governorate, 14 May 2017

Affected areas	Population	Suspected AWD/cholera cases	No of cases confirmed by culture test	No. of Deaths
Amanat al Asimah (Sana'a city)	2,215,719	4,220	118	17
Sana'a Governorate	1,141,804	1,465	33	26
Amaran	1,092,123	1,048	11	13
Hajjah	1,834,263	955	8	18
Ibb	2,634,988	677	6	19
Al Mahweet	614,616	592	4	14
Al Baydah	715,040	492	1	2
Dhamar	1,649,444	407	21	8
Al Dhale'a	585,705	353	3	3
Taiz	2,968,719	280	3	0
Abyan	543,144	168	0	1
Raymah	488,403	114	1	1
Al Hudaydah	2,697,055	89	0	0
Aden	751,806	80	2	2
Sa'ada	862,758	73	2	0
Al Jawf	547,349	30	2	0
Shabwah	584,632	2	0	0
Al Mahrah	111,197	1	0	0
TOTAL		11,046	208	124

Source: WASH Cluster, Health Cluster 14/05/2017; Population estimates are projected figures for 2012 from Yemen Central Statistical Organisation 2012.

WASH: Since the escalation of the conflict in March 2015 the WASH situation has deteriorated significantly. 14.5 million people are in need of support to meet their basic water, sanitation and hygiene needs, including 8.2 million who are in acute need (OCHA 23/11/2016). Up to 9.4 million people have suspended, reduced or disrupted access to water, largely as a result of fuel shortages that inhibit the capacity of sanitation systems. This has severely limited access to clean safe water, and pushed many to use unimproved and unsafe water sources, which may now be contaminated contributing to the rapid spread of cholera. Additionally, recent heavy rains in the west of the country have washed piles of uncollected waste in to water sources (WHO 11/05/2017).

Conflict damage has also put critical water and sanitation infrastructure in several governorates out of action, as well as causing extensive damage in others (ACTED 19/10/2016). The price of trucked water is now typically two to four times higher than the pre-crisis level (UNICEF 30/04/2017). The economic crisis is limiting peoples' capacity to access clean water even where available.

Vulnerable groups affected

IDPs: As of 1 April 2017 there are almost 1,989,000 internally displaced persons (IDPs) in Yemen, constituting 7.1% of the population. The majority of IDPs are in Aden, Hajjah, Amanat al Asimah, Taiz and Amran (TFPM 15/05/2017). Cholera is present in all of these areas. Amanat al Asimah is at high risk of cholera due to its close proximity to infected areas. Access to clean drinking water is particularly poor among IDPs (OCHA 23/11/2016). Large scale and prolonged displacement also places an additional burden on limited water sources in host communities. Therefore, populations in IDP hosting areas are more likely to be using unsafe water sources, and therefore are at high risk of infection.

Aggravating factors

Population density and displacement

IDPs are primarily being hosted in areas where the population density is high, and therefore the risk of disease transmission is high. Services in these areas are already overburdened, and safe drinking water is scarce. WASH and health services are already very weak and overstretched, before the cholera outbreak began (OCHA 23/11/2016).

Other disease outbreaks

Other diseases, such as measles and dengue, are also widespread, adding to the burden on weak health services. Vaccinations levels for key diseases have fallen well below the herd immunity threshold (Middle East Monitor 21/10/2016; Health Cluster 31/12/2016; The Lancet 07/2016).

Conflict and insecurity

Active conflict is ongoing in several areas of the country and will inhibit capacity to control the outbreak. Taiz, Al Hudaydah, and Sa'ada, currently some of the main conflict hotspots, have all reported cases of cholera (Critical Threats 15/05/2017; WASH Cluster, Health Cluster 14/05/2017). Additionally, US airstrikes against AQAP are frequent in Abyan and Shabwah, where cholera cases have also been reported (Critical Threats 24/04/2017). Ongoing conflict is further damaging critical health and WASH infrastructure, as well increasing the difficulty of accessing health services.

Whilst much of the country is perceived to be accessible to humanitarian actors, 43 districts out of 333 have very high access constraints due to conflict. 2.1 million people live within these areas, out of which 1.3 million are in acute need of humanitarian assistance before the outbreak of cholera (OCHA 09/05/2017). These inaccessible areas are primarily in Al Jawf, Hajjah, Sa'ada, Al Bayda, Taiz and Sana'a, all of have declared cases of cholera.

As a result of the conflict, 18.8 million people (70% of the population) are in need of humanitarian assistance, including 10.3 million (38%) in acute need (OCHA 23/11/2016).

Rainy season

The current rainy season in Yemen began in March and is expected to last until around mid-June (FEWSNET, accessed 17/05/2017). During rainy season, landslides and floods are relatively common, and can increase the risk of water contamination and disease transmission, as well as reducing access to health and WASH facilities for populations in need. In July 2016 torrential rains caused flooding and landslides in Al Hudaydah, Amran, Hajjah, Sana'a, Al Mahwit, Aden, and Marib affected an estimated 24,000 people (Reliefweb, accessed on 18/05/2017). All of these areas have reported cholera cases.

Economic crisis

Yemen is experiencing an economic crisis which is aggravating all dimensions of the health and WASH crises. Oil and gas exports declined by 86% in 2015, caused by a drop in foreign exchange reserves, destabilising the Yemeni riyal, which continues to depreciate (FEWSNET 01/03/2017).. Moving the central bank from Sana'a to Aden has worsened the pre-existing liquidity crisis, and marked a significant economic downturn for the whole country. The continued depreciation of the currency gravely affects the country's ability to import basic items and increases the price of staple goods, affecting availability and therefore price of health and WASH services to the population.

Malnutrition

An estimated 4.5 million people are in need of nutrition assistance, of which 4 million are in acute need. An estimated 462,000 children are suffering from severe acute malnutrition (SAM). 3.3 million children and pregnant or lactating women are suffering from moderate acute malnutrition (MAM) (OCHA 23/11/2016; WHO 28/03/2017). Increased malnutrition rates are indirectly linked to contaminated drinking water and poor sanitation and hygiene conditions (OCHA 23/11/2016). Malnourished people are more vulnerable to contracting diseases, and more likely to die as a result.

Contextual information

Cause and symptoms

Cholera is an acute diarrhoeal infection caused by the ingestion of food or water contaminated with the bacterium *Vibrio cholera*. Most of those infected will have no or mild symptoms, but in severe cases the disease can kill a healthy person within hours if left untreated (WHO 11/05/2017). The pathogens that cause cholera are more likely to spread in warmer weather conditions.

Treatment

Cholera is an easily treatable disease with quick diagnosis. Administration of oral rehydration salts to replace lost fluids is a very effective treatment. Administration of intravenous fluids may be required in severe cases.

Previous outbreaks

Cholera was reported in Yemen on 6 October 2016, and had led to 24,500 suspected cases and 108 associated deaths between October 2016 and April 2017 (Reliefweb accessed 17/05/2017; WHO 30/04/2017). It is likely that the number of deaths and cases was much higher than reported. Successful interventions by the Health Cluster, WHO and the Ministry of Public Health and Population meant that the outbreak was brought under control, and the number of new cases per week had been in decline in most governorates since early 2017 (WHO 21/03/2017). During the week 6-12 March, 88 new suspected cases of cholera and two deaths were reported country-wide, mainly in Hajjah, Al Bayda and Sana'a governorates (WHO 21/03/2017).

Key characteristics

Demographic profile: The estimated population of Yemen is 27 million (WHO 23/03/2017). An estimated 54% are living under the national poverty line (AI Monitor 06/01/2017).

WASH: Pre-conflict escalation, 54.9% of the population had access to improved water sources (World Bank 2012).

Health: Life expectancy at birth is 63.8 years (World Bank 2014); under-five mortality: 41.9 per 1,000 live births; infant mortality: 33.8 per 1,000 live births; the maternal mortality: 385 per 100,000 live births (World Bank 2015).

Literacy: In 2015 the literacy rate for women stood at 54.8%, and for men at 85% (World Bank 2015).

Cooking sources: Gas is the most commonly used cooking fuel, but has become scarce and expensive (WFP 15/03/2017).

Response capacity

Local and national response capacity

Local capacity to respond to the crisis is very low. The areas most severely affected are largely under the control of al Houthi-Saleh forces who have very limited financial resources due to the collapse of the central bank (International Crisis Group 26/09/2016).

International response capacity

WHO, MSF, UNICEF, and Health Cluster partners are on the ground and responding to the crisis. Oral rehydration therapy centres to deal with the outbreak have been established. Medical kits and supplies to deal with the outbreak are being distributed to functioning medical centres in the affected areas (WASH Cluster, Health Cluster 14/05/2017).

As of 14 May, WASH Cluster partners are responding in 14 affected governorates, and are scaling up response in the worst affected areas. Chlorination of public and private water sources is a priority (WASH Cluster, Health Cluster 14/05/2017).

Population coping mechanisms

Families are already heavily reliant on the use of negative coping strategies, and are unlikely to have any remaining capacity to respond to this crisis. Negative coping mechanisms include using water from untreated sources due to lack of availability of treated sources which increases the cholera transmission rate (IRIN 17/05/2017).

to control an outbreak within weeks of being announced and stopped it within four months (NCBI August 2013).

- Providing water purification tablets to affected areas can significantly increase the number of people drinking safe water. Many may understand the need to purify drinking water, but may lack the means to do so (CDC November 2011).
- A significant injection of funds will be required to manage a cholera outbreak on this scale. In Zimbabwe a cholera response in 2008/9 lacked sufficient human and material resources to reach affected or at-risk populations in a timely manner, and as a result interventions were reactive, late and reaching areas after the number of cases had already gone in to decline (WASH Cluster 2009).

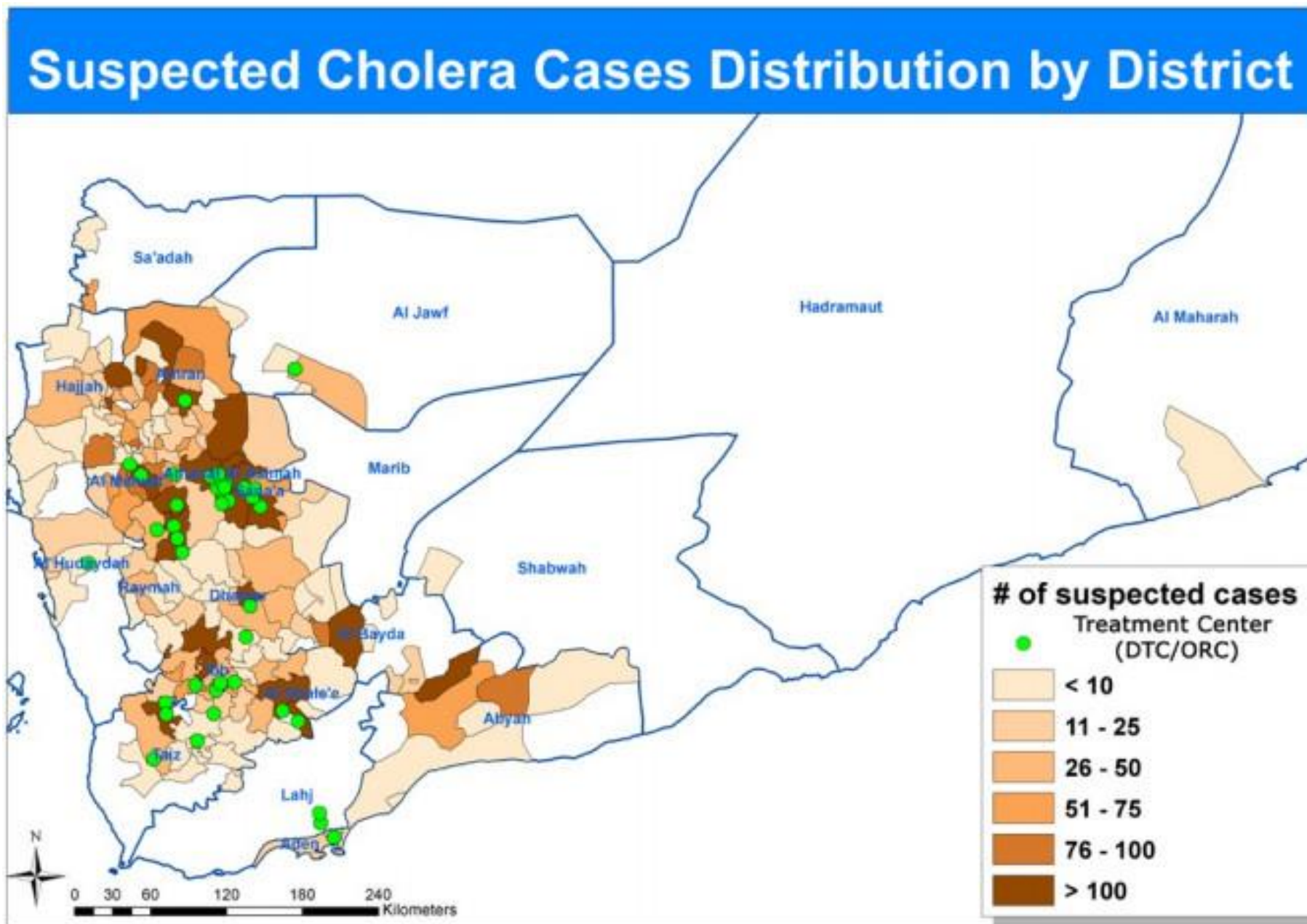
Information gaps and needs

- The number of reported cases is likely to be much lower than the actual caseload, due to the number of people in the country that are unable to access health services (WASH Cluster, Health Cluster 14/05/2017).
- There is a shortage of medical labs for rapid diagnostic tests. Only 208 cases have been confirmed by laboratory testing (WASH Cluster, Health Cluster 14/05/2017). Some strains of cholera are resistant to many antimicrobial agents, so identification of the strain is critical for effective treatment.

Lessons learned

- Wide-scale surveillance on the epidemic needs to be established as quickly as possible and formal public updates should be made daily. Local disease surveillance systems should not be relied upon to provide this (CDC November 2011). Use of GPS tracking in Guinea in 2012 was critical in helping health workers identify high-risk areas (IRIN 31/12/2012).
- Strong public awareness campaigns have proven to have a major impact in the control of cholera epidemics – in Iran an effective public awareness campaign helped

Map of affected area



Source: WASH Cluster, Health Cluster 14/05/2017: