Understanding cholera in the African region: a deep dive into the Region's challenges and progress.

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Cholera is an acute diarrheal infection caused by ingestion of food or water contaminated with the bacterium *Vibrio cholerae*. Cholera remains a global threat to public health and an indicator of inequity and lack of social development.

Cholera remains a persistent threat to public health in many regions around the world, particularly in Africa. Despite significant advancements in healthcare, sanitation, and disease prevention, cholera outbreaks continue to occur, claiming lives and causing immense suffering. In this blog, we will explore the burden of cholera in the African region, examining its causes, impacts, and efforts to combat this deadly disease.

photo showing an adult washing hand with soap and clean water. Source: WHO AFRO

The Burden of Cholera in the African region

The African region bears a substantial burden of cholera cases globally, with outbreaks occurring frequently and affecting vulnerable populations. In 2024, Seven nations - Comoros, Ethiopia, Malawi, Mozambique, United Republic of Tanzania, Zambia, and Zimbabwe - recorded a combined total of 1,740 new cases, with cholera transmission ongoing in 14 countries. In 2024, Comoros verified an outbreak connected to cross-border transmission. From the start of 2024 until April 7th, the WHO Regional Office for Africa (AFRO) documented 67,073 cholera cases and 1,302 deaths, representing a case-fatality ratio of 1.9%. The Democratic Republic of the Congo, Ethiopia, Mozambique, Zambia, and Zimbabwe collectively represent 94.3%

(63,264) of the total cases and 95.5% (1,243) deaths this year. As of April 7th, 2024, there have been a cumulative total of 353,604 cholera cases and 6,412 deaths reported since January 1st, 2022, with the countries accounting for 73.9% (261,263) of the cumulative cases and 64.3% (4,121) of all cumulative death.

Symptoms of cholera

Cholera is a highly contagious illness transmitted through the consumption of contaminated food or water sources. Its effects can be severe, characterized by intense acute watery diarrhea. If left untreated, the severe manifestations of cholera can be fatal within a matter of hours. While many individuals infected with the Vibrio cholerae bacteria may not display any symptoms, they can still harbor the bacteria in their feces for a period ranging from 1 to 10 days post-infection, potentially posing a risk of transmission to others. Those who do exhibit symptoms. The onset of symptoms generally occurs within a window of 12 hours to 5 days after exposure. However, a small subset of patients may experience acute watery diarrhea accompanied by severe dehydration, which, if not promptly addressed, can result in fatality.

Treatment of cholera

Most people who get cholera have either a little bit of diarrhea or feel fine. But about one out of every ten people who get a certain type of cholera might get sick enough to need to go to the hospital. It's important to check and treat people with cholera quickly. Even if someone is very sick, getting the right help fast can save their life. The primary way to treat cholera involves:

a) **Rehydration therapy** is the main way to treat cholera. It involves quickly restoring the fluids and salts that the body has lost.
b) **Antibiotic treatment:** Antibiotics can help lessen how much fluid the body needs and make the sickness shorter. They're used for serious cases of cholera
c) **Zinc treatment:** Giving zinc to cholera children can also improve their symptoms.

Prevention of cholera

- **Be sure to drink and use safe water:** Drink and use safe water to avoid ingesting contaminated water that may contain cholera bacteria.
- **Wash your hands often with soap and safe water:** Wash your hands frequently with soap and safe water to minimize the risk of transmitting the bacteria from surfaces to your mouth or food.
- **Use toilets:** Use toilets to prevent fecal contamination of the environment and water sources, reducing the spread of cholera
- **Boil, cook, peel, or leave it:** When preparing food, follow safety measures such as boiling, cooking, peeling, or leaving it to minimize the risk of consuming contaminated food.
- **Clean up safely:** Clean up safely to maintain hygienic conditions in your surroundings and prevent the spread of cholera bacteria through contaminated surfaces or objects.

Effects of cholera

In the African region, cholera leads to severe dehydration and diarrhea, resulting in significant morbidity and mortality, particularly among vulnerable populations with limited access to clean water and healthcare services. Outbreaks of cholera can strain already fragile healthcare systems, disrupt communities, and hinder socio-economic development.

The impacts of cholera extend beyond the immediate health consequences, affecting livelihoods, economies, and social stability. Outbreaks can strain already fragile healthcare systems, leading to increased mortality and morbidity rates. Furthermore, the socio-economic burden of cholera can impede development efforts and perpetuate cycles of poverty in affected communities.

Is there a cholera vaccine?

Yes, there is a cholera vaccine available. Several types of cholera vaccines have been developed and are used in different parts of the world. One of the most used vaccines is an oral cholera vaccine, which is taken by mouth. This vaccine provides protection against cholera for a certain period after vaccination. It is often used in areas where cholera is endemic or during outbreaks to help control the spread of the disease. Additionally, some countries have included cholera vaccination in their routine immunization programs for populations at high risk of cholera.

An adult receiving Cholera oral vaccine. Source: WHO AFRO

Control of cholera disease

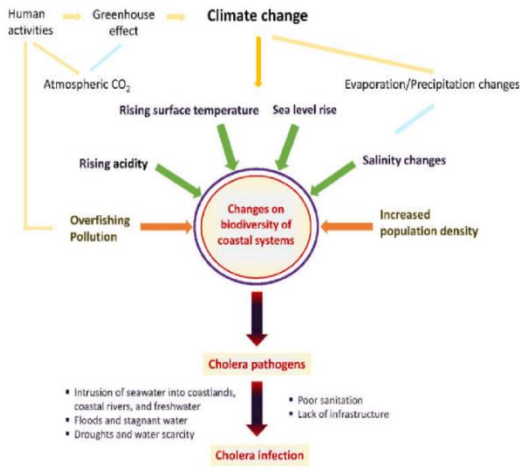
Controlling cholera involves a variety of strategies, including:

- **Surveillance** involves monitoring the spread of cholera outbreaks, identifying affected areas, and tracking the number of cases to inform response efforts.
- **Water, sanitation, and hygiene (WASH) initiatives** focus on ensuring access to clean water sources, improving sanitation infrastructure, and promoting hygienic practices to prevent cholera transmission.
- **Social mobilization** efforts aim to raise awareness about cholera prevention and treatment, engage communities in adopting safe hygiene behaviors, and encourage early reporting of symptoms.
- **Treatment** involves promptly diagnosing and treating cholera cases with oral rehydration therapy (ORT) and, in severe cases, intravenous fluids to prevent dehydration and reduce mortality.

- **Oral cholera vaccines** are administered to at-risk populations to provide immunity against cholera and reduce the spread of the disease during outbreaks, complementing other control measures.

Climate change and cholera in the Region

The climate is changing rapidly, leading to significant direct and indirect challenges for global public health. This includes intensifying the severity and frequency of public health crises and introducing unforeseen issues. The African region bears a disproportionate burden of these climate impacts, with seven of the ten most vulnerable countries globally located on the continent.



Climate change on oceans and Vibrio cholerae: Schematic representation of the major drivers for cholera

Figure 1 showing how climate change contributes to cholera outbreak and infection. source: https://www.researchgate.net

Vibrio cholerae survives and thrives in a temperature of 30 °C, pH of 8.5, and 15% salinity. **Droughts**, which have diverse effects across meteorological domains, may contribute to cholera outbreaks by potentially increasing the levels of Vibrio cholerae in groundwater. **El Nino**-triggered droughts and floods have pushed numerous individuals towards unsafe water supplies, escalating a cholera outbreak in the subregion. At the same time, heavy rains in southern Africa might exacerbate cholera in 2024.

WHO response to cholera

- Establish the Global Task Force on Cholera Control (GTFCC) to strengthen GTFCC's support for countries.
- promote the design and implementation of global strategies to contribute to global capacity development for cholera prevention and control.
- Support the development of a research agenda with an emphasis on evaluating innovative approaches to cholera prevention and control in affected countries
- Support countries to implement effective cholera control strategies and monitor progress
- Disseminate technical guidelines and operational manuals

For more information

World Health Organization (WHO)
Centers for Disease Control and Prevention (CDC)
Global Task Force on Cholera Control (GTFCC) –
The August 2017 WHO position paper on vaccines against cholera
Iris WHO
Cholera prevention
Climate change and malaria, dengue and cholera outbreaks in Africa: a call for concerted actions
Cholera in the African Region: weekly Regional cholera bulleting
The Impact of Climate Change on Cholera: A Review on the Global Status and Future Challenges
Southern Africa: El Niño, Positive Indian Ocean Dipole Forecast and Humanitarian Impact (February 2024)