

# Yemen: Cholera Outbreak

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## Overview

Yemen is facing an unprecedented humanitarian crisis due to an ongoing international conflict that has killed more than 10,000 people since 2015 and left more than half of its 24.7 million population with no access to basic health care. Roughly 15 million people lack access to clean water, sanitation, and hygiene services, which has manifested in the largest cholera outbreak in Yemen's history. The outbreak began in October 2016, tapered off in December, and surged in April 2017 (**Figure 1**). Cholera has been detected in most of Yemen's 22 governorates.

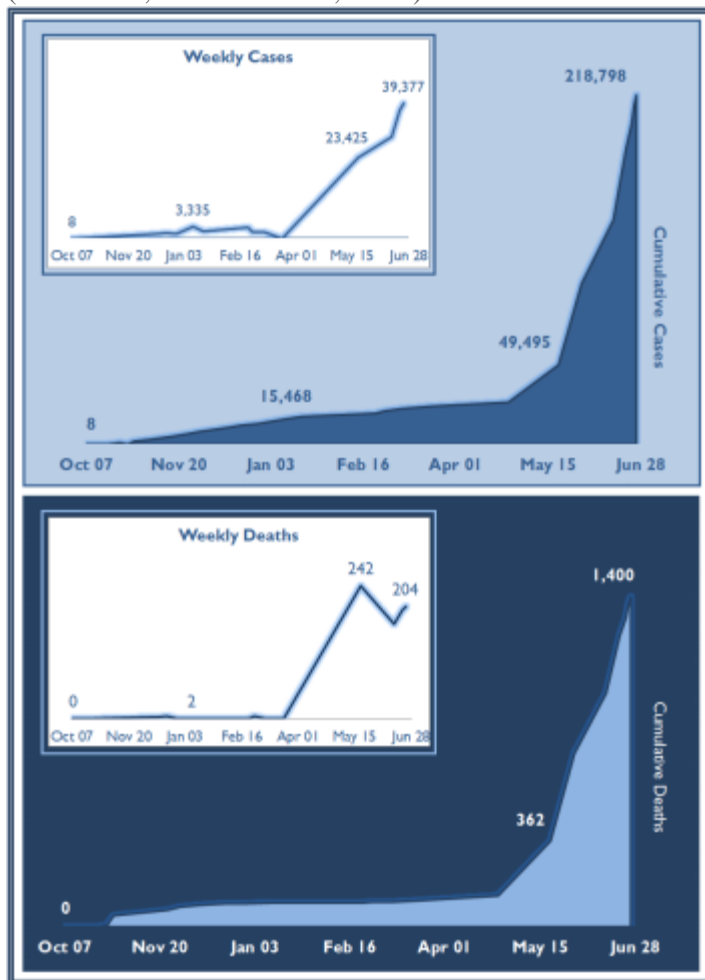
The World Health Organization (WHO) estimates that as of June 26, 2017, more than 200,000 Yemenis have contracted cholera, of whom 1,400 have died. Children younger than 15 years old and the elderly are particularly vulnerable, together accounting for roughly 80% of all cholera deaths. Case counts continue to rise, with an average of 5,000 cases daily. Only 45% of health facilities in the country are functional and have limited access to medicines, medical equipment, and clean water and sanitation, further complicating efforts to control the outbreak.

<p><a href="#">What Is Cholera?</a></p>
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Cholera is a diarrheal infection that is contracted by ingesting food or water contaminated with the bacterium *Vibrio cholerae*. WHO estimates that there are up to 4 million annual cholera cases worldwide, causing 21,000-143,000 deaths annually. The disease is primarily found in countries and areas that commonly lack sufficient access to clean water, sanitation, and hygiene (WASH), such as urban slums, camps for internally displaced persons or refugees, and areas under conflict.

About 75% of people who are infected with cholera do not exhibit any symptoms, although infected people can spread the bacterium for up to two weeks if others ingest food or water contaminated with their fecal matter. Cholera can cause acute diarrhea and vomiting, which can lead to severe dehydration and death within hours if not immediately treated. People with suppressed immune conditions, such as malnourished children and HIV-positive individuals, are more likely to die from cholera. Common treatments include oral rehydration salts and antibiotics. Cholera vaccines provide protection for up to five years. Long-term prevention of the disease requires the establishment and proper maintenance of clean water systems, wastewater treatment plants, and sanitary facilities.

Figure 1. Suspected Cholera Cases and Deaths: Yemen (October 7, 2016-June 26, 2017)



**Sources:** Created by CRS from WHO, *Yemen: Cholera Outbreak, Weekly Epidemiology Bulletin, Week 25* and WHO, *Yemen: Cholera Outbreak, Daily*

*Epidemiology Update*, June 27, 2017.

The [conflict in Yemen](#) is primarily a battle between a coalition of nations

led by Saudi Arabia that seek to restore the rule of Yemen's internationally recognized President, Abdu Rabbu Mansour Hadi, who was overthrown in 2015 by an alliance composed of the Iran-supported Houthi movement and loyalists of the previous President, Ali Abdullah Saleh.

After more than two years of war, the country has fractured and the economy has been devastated, creating conditions conducive to the spread of cholera. When President Hadi moved the Central Bank from Sana'a, the capital, to the city of Aden in 2016 (reportedly to exert control over Yemen's finances), that action cut payments to thousands of civil servants in Houthi-Saleh controlled territory, including for municipal services such as garbage collection. For the past nine months, waste has gone uncollected and untreated, polluting water supplies and contributing to the ongoing cholera outbreak. To restore the salaries of front-line public health workers combating the cholera crisis, the United Nations Children's Fund (UNICEF) [recently announced that it has started paying medical workers about 70% of their salaries](#). [International human rights organizations](#) also have accused warring factions of conducting airstrikes that have unlawfully targeted civilian infrastructure, such as water wells, bottling facilities, health facilities, and water treatment plants. As of October 2016, [at least 274 health facilities have been reportedly damaged or destroyed](#).

## **U.S. and International Response**

In 2016, the United Nations Office for the Coordination of Humanitarian Affairs (UNOCHA) issued a [\\$2.1 billion](#) appeal to fund the 2017 Yemen Humanitarian Response Plan (YHRP). More than \$1.5 billion would be used to provide nutrition (\$1.1 billion), health (\$332.1 million), and clean water and sanitation (\$127.7 million) to almost 20 million people. As of June 14, 2017, [the international community has provided nearly \\$600 million](#) to the plan, including roughly \$145 million from the United States (the largest donor).

Intense fighting (particularly near ports and major access points), [attacks on health facilities](#) and [humanitarian convoys](#), and [mistrust of the United Nations](#) have limited humanitarian access. Cholera control efforts are also complicated by the rapidly deteriorating health conditions of the population. The disease can usually be treated with antibiotics and oral rehydration salts, though the disease is more deadly for people with compromised immune systems, such as those who are undernourished. About 3.3 million children and pregnant or lactating women in Yemen are acutely malnourished, including 462,000 children who are younger than five years old.

In June 2017, the International Coordinating Group (ICG) on vaccine provision for cholera announced that it [was shipping 1 million doses](#) of cholera vaccine to Yemen. The vaccines may arrive in July, though observers are concerned about Saudi-led blockades that have limited access to Yemen's air and sea ports. Saudi officials express concern that shipments of goods to Yemen may be exploited by their adversaries. Additional [efforts by U.S., U.N., and international partners](#) to control the cholera outbreak and address other health issues have included

- the rehabilitation of the water supply system in Ta'iz City and surrounding districts, providing access to safe drinking water for more than 400,000 people;
- the provision of medical supplies to treat approximately 60,000 patients;
- the dissemination of more than 115,000 bags of intravenous fluids;
- the establishment of nearly 2,000 cholera treatment beds and 200 oral rehydration points to treat suspected cases; and

- the provision of one-month supplies of chlorine tablets for 580,000 people.

Since the conflict began in March 2015, [the United States has been the largest contributor of humanitarian aid to Yemen](#). Funds were provided to international aid organizations from USAID's Office of Foreign Disaster Assistance (OFDA), USAID's Food for Peace (FFP), and the U.S. Department of State's Bureau of Population, Refugees, and Migration (State/PRM).

*Dr. Giorleny Altamirano, Global Health Fellow, contributed to this Insight.*