

Cholera in Haiti: A public health challenge in the Dominican Republic and Americas Region

To the editor,

Vibrio cholerae is a bacterium that can cause watery diarrhea, and if untreated, severe dehydration can lead to death. The World Health Organization (WHO) describes the global cholera burden with 1.3–4 million cases and 21 000–143 000 deaths, noting that underreporting remains a significant challenge. A comprehensive approach to cholera elimination – *Ending Cholera – A Global Roadmap to 2030* (reduce cholera deaths by 90% and eliminate cholera in 20 countries by 2030) – integrates surveillance activities, water and sanitation interventions, social mobilization efforts, and pharmacological (including preventive vaccine) management (1).

The Americas region reported the first cholera case in Peru in 1991, and by 1994, most Latin American countries except Uruguay and the Caribbean islands had reported cases (2). After the effects of El Niño and hurricane Mitch in 1998–1999, cholera reemerged after the Haiti earthquake in 2010 (2). However, after three years without reported cases, the Haiti Ministry of Health confirmed two cholera cases (*Vibrio cholerae* O1) in the Port-au-Prince area on 2 October 2022 (3,4). By 6 November 2022, 6 814 suspected cases, including 653 laboratory-confirmed cases and 144 deaths, were reported in seven departments (3). By 20 December 2022, 18 469 suspected cases, with 1 380 laboratory-confirmed cases and 324 deaths, were reported across 10 departments (3).

On 30 November 2022, the WHO evaluated cholera risk on Hispaniola, concluding a high transmission risk on the island, although with moderate risk across the Americas and low risk globally (4). To reduce risk of cross-border transmission and propagation within the Dominican Republic (DR), and consequently the Americas, the DR Ministry of Health immediately activated comprehensive national cholera surveillance at border crossings and provinces (Barahona, Dajabón, Elías Piña, Jimaní, Monte Cristi, Neiba, Pedernales) (5). These provinces were identified as the most vulnerable areas susceptible for cholera transmission, as a result of increased undocumented migration from Haiti. They also deployed health workers to disseminate health messaging and monitor symptomatic persons at national hospitals, airports, and ports.

Other preventive approaches included: 1) dissemination of public health advisories (e.g. regular handwashing practices, caution for food preparation activities, strict consumption of potable water); 2) strict infection control practices within health centers; 3) rapid laboratory analyses of suspected samples; and 4) increased surveillance at restaurants, hotels, community centers, and community residences (e.g. long-term centers, military

bases, jails) (5). DR Ministry of Health teams also conducted periodic microbiological surveillance of rivers (e.g. Isabela and Ozama rivers).

Albeit prompt efforts, two imported cholera cases were reported and successfully managed in the eastern region (La Altagracia province) on 20 October 2022, an area recovering from Hurricane Fiona's passage on 19 September 2022, and capital city (National District, Santo Domingo) on 21 November 2022 (3). To reinforce national surveillance, the DR government supported the collaboration of various federal agencies – Ministry of Environment and Natural Resources, Santo Domingo Aqueduct and Sewage Corporation (Corporación del Acueducto y Alcantarillado de Santo Domingo, CAASD, in Spanish), and Ministry of Public Works – on key community efforts to maintain strict surveillance and quickly identify any contaminated water source. The following actions included the distribution of chlorine packets and targeted health messaging on the importance to maintain hygiene practices and consume well-prepared foods and potable water. Further examination of water quality within rivers did not have microbiological evidence of *V. cholerae* by late November 2022.

However, by 22 December 2022, the DR Ministry of Health confirmed six new cases of cholera among Dominican residents (4 adults, 2 children) in the National District of Santo Domingo (La Zurza) (5). Subsequently, *V. cholerae* was identified in the Haina y Ozama rivers. Health Area IV teams swiftly acted to identify high-risk areas, support community centers that distributed resources (e.g., chlorine packets, toilet paper, water tanks) to residents, install mobile hospitals, and reinforce border surveillance, noting concern for upcoming holiday travel and gatherings.

This prompt DR Ministry of Health response, which echoes that of the diphtheria outbreak in 2004–2005 (6), showcases the indispensable role of national health systems with strong political will and a prepared workforce for emergency preparedness. The One Health framework can help guide decision-makers in their local and national actions to protect population health and mitigate risk of emerging and reemerging health threats. These efforts can ultimately support robust surveillance systems, promote compliance with recommended biosecurity practices, and prioritize global health security for the Americas.

With four concurrent challenges in Haiti – cholera outbreak, fuel shortages, gang violence, and political instability – an urgent call to action will be essential to curb cholera transmission on Hispaniola (7). Binational and regional cooperation will be imperative to strengthen cholera prevention and control

efforts. Moving forward, the *Ending Cholera: Global Roadmap to 2030* coupled with the *One Health Joint Plan of Action (2022-2026)* offer a holistic approach toward cholera elimination and improved water and sanitation practices, as part of Sustainable Development Goals 3 and 6 (1,8).

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