

Situation summary

In October 2022, after three years with no confirmed cases of cholera, Haitian health authorities reported confirmed cases of *Vibrio cholerae* O1 in the Port-au-Prince metropolitan area. Since then, in the Region of the Americas, cases have been reported in both Haiti and the Dominican Republic (1-4).

Since the last Pan American Health Organization / World Health Organization (PAHO / WHO) cholera epidemiological update (5), Brazil has reported a confirmed case of cholera (6).

On 17 April 2024, the **Brazil** IHR National Focal Point (NFP) reported a case of autochthonous cholera in the municipality of Salvador, Bahia State. The case corresponds to a 60-year-old male, who developed abdominal discomfort and watery diarrhea on 19 March 2024. The case had no history of travel to countries with confirmed cases and no history of contact with suspected or confirmed cases of cholera. On 28 March 2024, the case sought medical attention and a stool specimen was collected and tested positive for *Vibrio cholerae* on 31 March. The sample was sent for analysis to the Oswaldo Cruz Foundation (Fiocruz), National Reference Laboratory. On 3 April, the case was discharged from the hospital following a favorable evolution. On 16 April, Fiocruz confirmed the identification of toxigenic *V. cholerae* O1 Ogawa. As of 3 April, the case remained hospitalized with favorable evolution (6, 7).

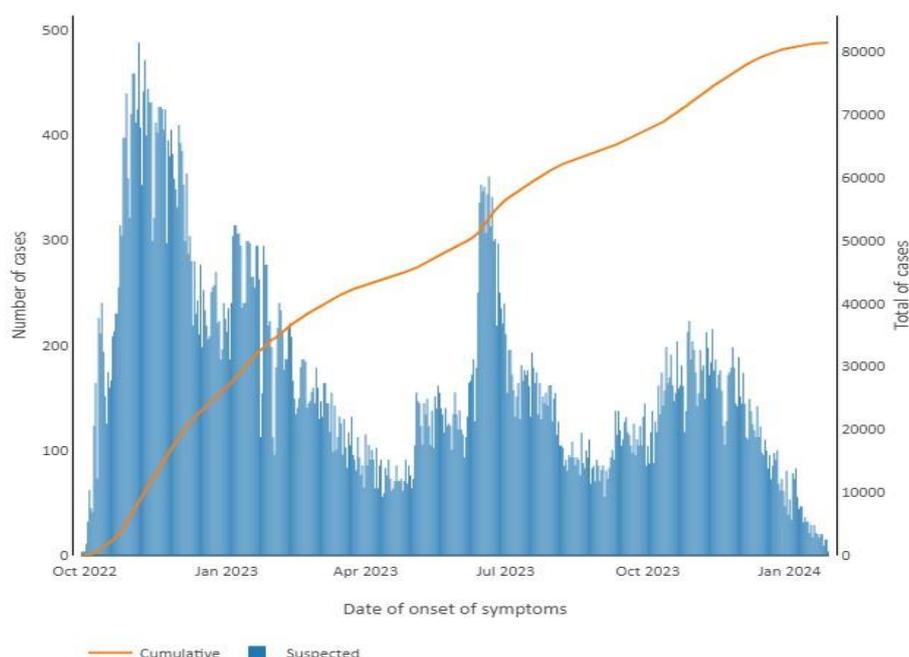
During contact follow-up, an asymptomatic close contact was identified, and a sample was collected on 17 April 2024. The sample was positive for *V. cholerae* and identification of the serotype and toxigenicity is pending. Other follow-up contacts have tested negative for *V. cholerae*. To date, the infection's origin has not been identified, and the epidemiological investigation is being continued by the country's health authorities. This is the first autochthonous case of cholera reported in Brazil since 2005 (6, 7).

In **Haiti**, between 2 October 2022 and 11 April 2024, the Haitian Ministry of Public Health and Population (MSPP per its acronym in French) reported a total of 82,885 suspected cases (**Figure 1**) in the country's ten departments, including 4,836 confirmed cases, 80,436 hospitalized suspected cases, and 1,270 reported deaths.¹ The case fatality rate among suspected cases is 1.5% (institutional case fatality rate of 1.2%) (3, 8).

Among a total of 14,980 samples tested by the National Public Health Laboratory of Haiti, 4,836 were confirmed (positivity rate of 32.3%) (3, 8).

¹ Data subject to change based on MSPP retrospective review.

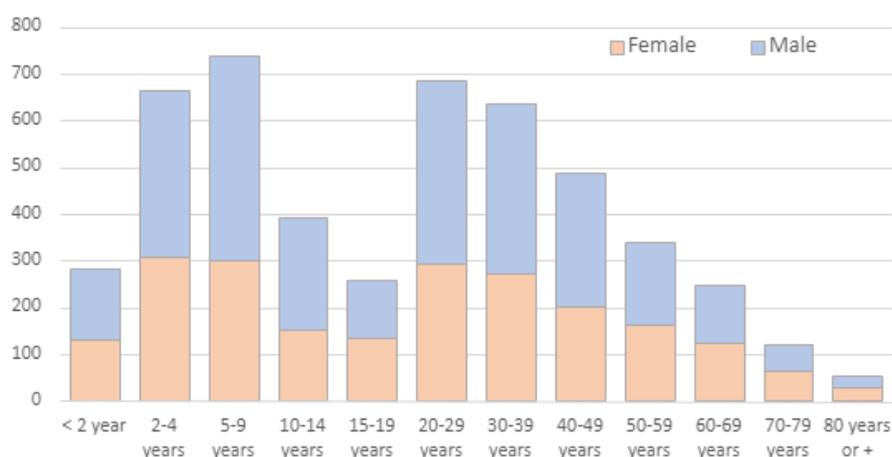
Figure 1. Distribution of suspected cases per day between 29 September 2022 to 11 January 2024, Haiti.



Source : Adapted from Ministère de la Santé Publique et de la Population, Haiti SITREP du choléra du 1^{er} septembre 2022 au 11 avril 2024, Haiti. Port-au-Prince: MSPP; 2024. Available in French from: <https://www.mspp.gouv.ht/wp-content/uploads/Sitrep-Cholera-12-avril-2024.pdf>

Of the total number of confirmed cases, 56% are males and 48% correspond to persons aged 19 years or younger. The most affected age group is 5 to 9 years (15%), followed by 20 to 29 years (14%), and 2 to 4 years (14%) (**Figure 2**) (3, 8).

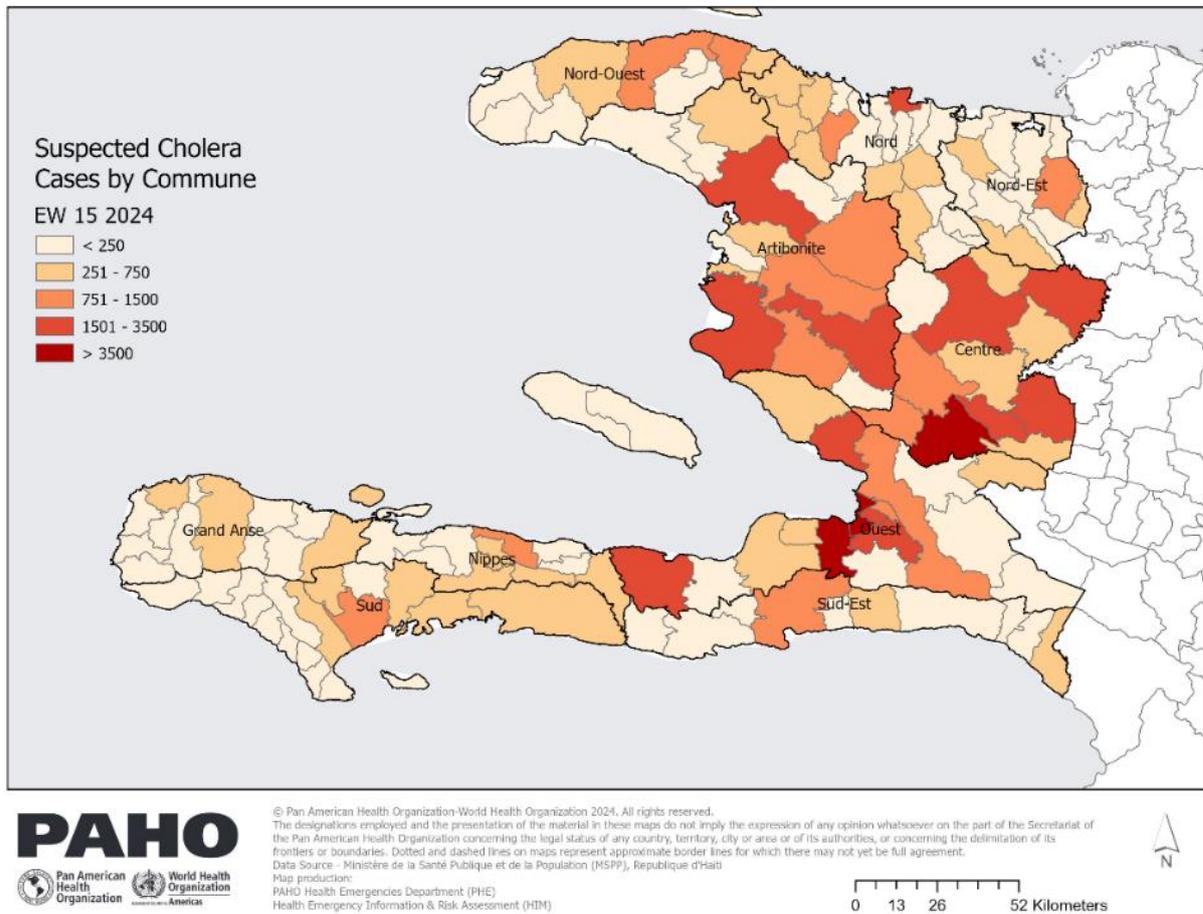
Figure 2. Distribution of confirmed cholera cases by age group and sex between 29 September 2022 and 11 April 2024, Haiti.



Source: Adapted from Ministère de la Santé Publique et de la Population, Haiti SITREP du choléra du 1^{er} septembre 2022 au 11 avril 2024, Haiti. Port-au-Prince: MSPP; 2024. Available in French from: <https://www.mspp.gouv.ht/wp-content/uploads/Sitrep-Cholera-12-avril-2024.pdf>

The Ouest Department continues to report the highest number of cases in the country, with 35% of all reported suspected cases. The municipalities of Port-au-Prince, Cité-Soleil, and Carrefour account for 51.5% (n=14,771) of all suspected cases reported in the Ouest Department (3, 8) (**Map 1**).

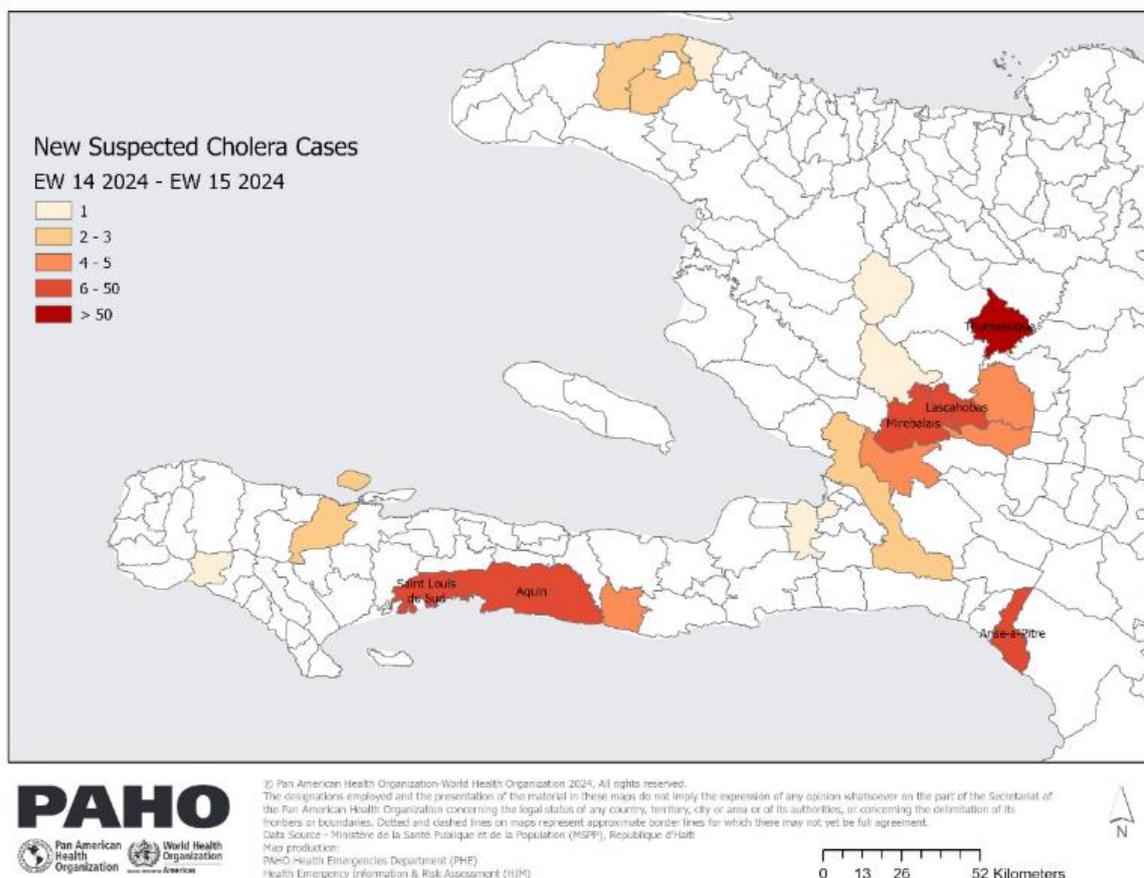
Map 1. Suspected cases of cholera in Haiti by Commune reported as epidemiological week (EW) 15 of 2024



Source: Adapted from Ministère de la Santé Publique et de la Population, Haiti SITREP du choléra du 1^{er} septembre 2022 au 11 avril 2024, Haiti. Port-au-Prince: MSPP: 2024. Available in French from: <https://www.mspp.gouv.ht/wp-content/uploads/Sitrep-Cholera-12-avril-2024.pdf>.

The current conditions in Haiti must be considered when analyzing the epidemiological situation of this cholera outbreak using the available official data. Epidemiological surveillance is affected due to the complex humanitarian and security crisis occurring in the country, resulting in limited access to health services and laboratories. Moreover, most of the population in the country is in a highly vulnerable situation in the face of established cholera transmission chains in the departments and municipalities. In addition, this vulnerability is also related to the limited conditions of generalized access to drinking water, sanitation, and hygiene. The humanitarian crisis and insecurity of these resources has been exacerbated in recent months. The humanitarian crisis and insecurity have exacerbated in the last months. This has considerably undermined the efforts of the MSPP and other organizations to implement prevention and control measures, including epidemiological surveillance, leading to underreporting of cases (8, 9).

Map 2. New suspected cases of cholera in Haiti reported in epidemiological weeks (EW) 14 - 15 of 2024



Source: Adapted from Ministère de la Santé Publique et de la Population, Haiti SITREP du choléra du 1^{er} septembre 2022 au 11 avril 2024, Haiti. Port-au-Prince: MSPP: 2024. Available in French from: <https://www.mspp.gouv.ht/wp-content/uploads/Sitrep-Cholera-12-avril-2024.pdf>.

In the **Dominican Republic**, since the notification of the first confirmed case on 20 October 2022, to 30 December 2023, a total of 332 confirmed cases have been reported. Between epidemiological week (EW) 1 and EW 52 of 2023, 310 confirmed cases were reported, including two deaths, for an incidence rate of 2.87 per 100,000 population and a case fatality rate of 0.65 per 100 cases. Cases were confirmed in the provinces of Distrito Nacional (n=112), Barahona (n=67), Santiago (n=34), Santo Domingo (n=51), Elías Piña (n=12), La Romana (n=7), San Juan (n=5), San Pedro de Macorís (n=5), Baoruco (n=4), Independencia (n=3), La Altagracia (n=2), La Vega (n=2), Monte Cristi (n=2), San Cristóbal (n=2), and Dajabón (n=1); additionally, one case was reported in a foreigner (4, 10).

In 2024, as of EW 14, 113 suspected cases were reported including one deceased case (under investigation) of which 15 were confirmed, for an incidence rate of 0.14 per 100,000 population. Cases were confirmed in the provinces of Distrito Nacional (n=5,) Santiago (n=3), Baoruco (n=2), Monte Cristi (n=2), Santo Domingo (n=2), and one case in a foreigner (4, 10).

Guidance for national authorities

PAHO/WHO reiterates the need for Member States to continue their efforts to strengthen and maintain cholera surveillance to detect suspected cases early, provide appropriate treatment, and prevent the spread of cholera. Early and appropriate treatment keeps the case fatality rate of hospitalized patients below 1% (11).

PAHO/WHO encourages Member States to simultaneously continue their efforts to ensure adequate basic sanitation and access to safe drinking water, in addition to hygiene promotion and social mobilization, to reduce the impact of cholera and other waterborne diseases.

PAHO/WHO reiterates that the following recommendations remain in effect.

Surveillance

According to the International Health Regulations (IHR (2005)), the risk of any public health event involving cholera cases must be assessed based on Annex 2 and notified to the WHO IHR Contact Point (2005) (12).

Cholera surveillance should be part of the country's comprehensive surveillance system and should include timely feedback to the local level and information to the global level. It is recommended that the WHO standardized case definition be used to obtain a more accurate estimate of the global cholera burden to define more sustainable intervention strategies (13, 14).

In those countries where there are currently no cases of cholera, it is recommended:

- Monitoring of acute diarrheal disease trends with emphasis on adults.
- Immediate notification of all suspected cases from the local level to the peripheral and central level.
- Investigation of all suspected cases and clusters.
- Laboratory confirmation of all suspected cases.

In an outbreak situation it is recommended:

- Intensify surveillance with the incorporation of active case finding.
- Laboratory confirmation of cases to monitor geographic spread and antimicrobial susceptibility.
- Weekly analysis of the number of cases and deaths by age, sex, geographic location, and hospital admission.

Laboratory diagnostics

Laboratory confirmation is made by isolation of *V. cholerae* strains or by serological evidence of recent infection (11).

It is important that public health laboratories in the Region be prepared to identify the two serotypes, Ogawa and Inaba (11).

Treatment

Cholera is a disease that responds satisfactorily to medical treatment. The first goal of treatment is to replace fluids lost through diarrhea and vomiting. Up to 80% of cases can be treated by prompt administration of oral rehydration salts (the WHO/UNICEF standard sachet of oral rehydration salts) (11, 15).

Intravenous fluids are recommended for patients who eliminate more than 10-20 ml/kg/h or patients with severe dehydration. After replacement of initial losses, the best guide for fluid therapy is to record fluid losses and gains and adjust administration accordingly (16).

Administration of appropriate antibiotics, especially in severe cases, shortens the duration of diarrhea, reduces the volume of hydration fluids needed, and shortens the time in which *V. cholerae* is excreted (16).

Mass administration of antibiotics is not recommended because it has no effect on the spread of cholera and contributes to bacterial resistance. With appropriate treatment, the case fatality rate is less than 1% (11, 15).

In order to provide timely access to treatment, the relevance of establishing cholera treatment centers in the affected populations should be evaluated. These centers should be located at strategic points to treat the maximum possible number of affected people outside hospital facilities and based on management protocols already defined and agreed upon by all parties (11).

Response plans should coordinate treatment centers and the health centers and care facilities in their communities and should include the dissemination of hygiene and public health measures (11).

Preventive measures

Prevention in the health care environment

The following recommendations are aimed at reducing the transmission of fecal-oral cholera infection in the health care setting (11, 17):

- Hand washing with soap and water or glycerin alcohol before and after contact with the patient.
- Use gloves and gowns for close contact with the patient and for contact with excretions or secretions.
- Isolation of patients in single room or cohort.
- Separation between beds of more than one meter.
- Cleaning of waste and organic matter with sodium hypochlorite (bleach) dilution (1:10) (11).
- Cleaning of the environment with sodium hypochlorite (bleach) dilution (1:100) (11).
- Persons caring for diapered children and incontinent persons should strictly follow the same precautions mentioned above, especially hand hygiene (after changing diapers and after contact with excreta). Frequent removal of soiled diapers is also recommended.

Preparedness and response

The implementation of medium- and long-term prevention activities is key in the fight against cholera. In general, the response to cholera outbreaks tends to be reactive and to take the form of an emergency response; this approach prevents many deaths, but not cholera cases (11).

A coordinated multidisciplinary approach to prevention, preparedness and response is recommended, which should be supported by a timely and effective surveillance system.

The key sectors to intervene are:

- Health care.
- Water supply and sanitation.
- Fishing and agriculture.
- Education.
- Professional associations, non-governmental organizations and international partners present in the country.

Water supply and sanitation

The most sustainable measure to protect populations from cholera and other epidemic waterborne diarrheal diseases remains the improvement of water supply and sanitation. However, this approach may be unrealistic for the poorest populations in our Region.

Cholera is usually transmitted by water or food contaminated with fecal matter. Sporadic outbreaks can occur anywhere in the world where water supply, sanitation, food safety and hygiene are inadequate.

Vaccination

Cholera vaccine is administered orally. Usually, cholera vaccines require two doses with an interval of 7 to 14 days depending on the vaccine being used. However, due to the high number of cholera outbreaks worldwide and the shortage of oral cholera vaccine (OCV), the International Coordination Group (ICG), which manages the global OCV stockpile, recommends administering only 1 dose to support the control of cholera outbreaks (11).

Currently, cholera vaccination is limited and recommended to areas with endemic cholera, in humanitarian crises with a high risk of cholera, and during cholera outbreaks. OCV is not recommended for children under 1 year of age (11).

Travel and international trade

Experience has shown that measures such as quarantine to limit the movement of persons and embargo of goods are unnecessary and ineffective in controlling the spread of cholera. Therefore, restricting the movement of people and imposing restrictions on the importation of food produced in accordance with good manufacturing practices solely on the basis that cholera is epidemic or endemic in a given country is not justified (11).

Routine screening or movement restrictions, including quarantine or cordon sanitaire measures, have not been shown to be effective in controlling cholera and are therefore considered unnecessary. WHO advises against the application of routine controls or any other movement restrictions, such as quarantine of travelers coming from areas with a cholera outbreak. Any health measures on arrival or departure, or related to the entry of travelers, must be applied in accordance with the provisions of the IHR (2005) (11).

The risk of infection for international travelers is very low for most travelers, even in countries where cholera outbreaks are active, provided they follow appropriate preventive measures. Humanitarian workers may be at risk if they are likely to be directly exposed to cholera patients or contaminated food or water, especially those staying in areas with poor access to health care facilities (11).

References

1. Pan American Health Organization / World Health Organization. Cholera Haiti - Risk assessment. Washington, D.C.: PAHO/WHO; 2022. Available from: <https://www.paho.org/en/documents/cholera-haiti-risk-assessment>
2. Pan American Health Organization / World Health Organization. Cholera Outbreak in Haiti: Situation Report 8 - 13 March 2024. Washington, D.C.: PAHO/WHO; 2024. Available from: <https://www.paho.org/en/documents/cholera-outbreak-haiti-situation-report-8-13-march-2024>
3. Ministère de la Santé Publique et de la Population, Haiti: SITREP du choléra du 1^{er} septembre 2022 au 11 avril 2024, Haiti. Port-au-Prince: MSPP; 2024. Available in French from: <https://www.mspp.gouv.ht/wp-content/uploads/Sitrep-Cholera-12-avril-2024.pdf>
4. Dominican Republic International Health Regulations (IHR) National Focal Point (NFP). E-mail communication received on 24 April 2024. Santo Domingo; 2024. Unpublished
5. Pan American Health Organization / World Health Organization. Epidemiological Update: Cholera. February 28, 2023, Washington, D.C.: PAHO/WHO; 2023. Available from: <https://www.paho.org/en/documents/epidemiological-update-cholera-28-february-2023>
6. Brazil Ministry of Health. NOTA TÉCNICA Nº 23/2024-CGZV/DEDT/SVSA/MS. Brasília; MS; 2024. Available in Portuguese from: <https://www.gov.br/saude/pt-br/centrais-de-conteudo/publicacoes/notas-tecnicas/2024/nota-tecnica-no-23-2024-svsa>
7. Brazil International Health Regulations (IHR) National Focal Point (NFP). E-mail communication received on 25 April 2024. Brasília; 2024. Unpublished
8. Haiti International Health Regulations (IHR) National Focal Point (NFP). E-mail communication received on 25 April 2024. Port-au-Prince; 2024. Unpublished
9. Pan American Health Organization / World Health Organization. Humanitarian Crisis in Haiti - Grade 3. Washington, D.C.: PAHO/WHO; 2024. Available from: <https://www.paho.org/en/haiti-humanitarian-crisis-grade-3>
10. Dominican Republic, Ministerio de Salud Pública. Boletín Epidemiológico Semanal. Boletín SE 52. Santo Domingo: MISPAS; 2023. Available in Spanish from: <https://digepi.gob.do/media/ytsjw2xx/boletin-semanal-52-2023.pdf>
11. Pan American Health Organization / World Health Organization. Cholera: technical guidance and resources. Washington, D.C.: PAHO/WHO; 2024. Available from: <https://www.paho.org/en/resurgence-cholera-hispaniola/cholera-technical-guidelines-and-resources>
12. World Health Organization. International Health Regulations 2005. 3rd Edition. Geneva: WHO; 2016. Available from: <https://www.who.int/publications/i/item/9789241580496>
13. World Health Organization. Cholera Outbreak Toolbox - December 2023. Geneva: WHO; 2023. Available from: <https://www.who.int/emergencies/outbreak-toolkit/disease-outbreak-toolboxes/cholera-outbreak-toolbox>

14. World Health Organization. Global Task Force on Cholera Control Surveillance Working Group. Public health surveillance for cholera - Interim guidance. Geneva: WHO; 2023. Available from: <https://www.gtfcc.org/wp-content/uploads/2023/02/gtfcc-public-health-surveillance-for-cholera-interim-guidance.pdf>
15. World Health Organization. Cholera. Geneva; WHO; 2023 [cited 25 April 2024]. Available from: <https://www.who.int/news-room/fact-sheets/detail/cholera>
16. Pan American Health Organization / World Health Organization. Recommendations for the clinical management of cholera. Washington, D.C.: PAHO/WHO; 2010. Available from: <https://www3.paho.org/hq/dmdocuments/2011/cholera-clin-management-ENG-rev-JUN-1.pdf>
17. World Health Organization. Global Task Force on Cholera Control Surveillance Working Group. Technical Note: Water, Sanitation and Hygiene and Infection Prevention and Control in Cholera Treatment Structures. Geneva: WHO; 2019. Available from: <https://www.gtfcc.org/wp-content/uploads/2019/10/gtfcc-technical-note-on-water-sanitation-and-hygiene-and-infection-prevention-and-control-in-cholera-treatment-structures.pdf>
18. Pan American Health Organization / World Health Organization. Epidemiological updates - Cholera resurgence in Hispaniola, Washington, D.C.: PAHO/WHO; 2022. Available from: <https://www.paho.org/en/epidemiological-update-resurgence-cholera-haiti>
19. World Health Organization. Weekly Epidemiological Bulletin. Cholera Annual Report 2022. Geneva: WHO; 2023. Available from: <https://iris.who.int/handle/10665/372986>
20. Pan American Health Organization / World Health Organization. Cholera. Washington, D.C.: PAHO/WHO; 2024. Available from: <https://www.paho.org/en/topics/cholera>
21. World Health Organization. Global Cholera Situation. Geneva: WHO; 2023. Available from: <https://www.who.int/emergencies/disease-outbreak-news/item/2023-DON437>
22. World Health Organization. Multi-country outbreaks of cholera. Situation report 13-17 April 2024. Geneva: WHO; 2023. Available from: <https://www.who.int/publications/m/item/multi-country-outbreak-of-cholera--external-situation-report--13--17-april-2024>