



# Epidemiological Alert: Cholera

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Considering the start of the rainy season in Central America and the Caribbean, which increases the risk of transmission for various diseases, including cholera, the Pan American Health Organization/World Health Organization (PAHO/WHO) encourages Member States the continuation of surveillance efforts to detect the occurrence of outbreaks and implementing intervention actions to reduce cholera spread determinants.

With respect to the current cholera situation in the island of Hispaniola, the total number of cases in Haiti, from the beginning of the epidemic on 20 October 2010 to 10 April 2012, was 534,647 of which 287,656 (53%) were hospitalized and 7,091 died.<sup>1</sup> The global case-fatality rate was 0.6% and the hospitalized case-fatality rate was 1.1%. During the last three weeks, an increase of cases has been detected primarily in the departments of Nord Ouest, Sud, Sud-Est and in the capital city Port-au-Prince, Ouest department. This rise is associated with the onset of the rainy season, which began earlier than expected.

In the Dominican Republic, the total of suspected cases reported since the beginning of the epidemic to Epidemiological Week 16 of 2012 was 23,347, of which 17,977 (77%) were hospitalized and 399 died. The global case-fatality rate recorded from EW 1 to 16 of 2012 was 1.2%. In the past two weeks, there has been an increase in cases due to an outbreak in the town of Tamboril, province of Santiago. This outbreak is associated with heavy rains that caused flooding and damage to the main aqueducts system. Dominican Republic authorities are implementing intervention measures to control this situation.

This week, the Centers for Disease Control and Prevention (CDC) reported, through the Morbidity and Mortality Weekly Report (MMWR), the identification in Haiti of a new serotype of *Vibrio cholerae* serogroup O1, the serotype Inaba, in two clinical samples collected between 12 and 13 March 2012 in Anse Rouge, Artibonite department. According to the report, molecular analyses conducted to date suggest that the Inaba serotype arose from serotype switching, which is a commonly observed phenomenon in cholera epidemics. This finding does not change the cholera clinical management guidelines. Public health laboratories in the Region should be prepared to identify these two serotypes.

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<sup>1</sup> Epidemiological data presented has been provided by the Ministère de la Santé et de la Population Post (MSPP) in Haiti and the Ministry of Health of the Dominican Republic, respectively.

## Recommendations

The Pan American Health Organization reiterates to its Member States that they should reinforce the following recommendations:

### Surveillance

Under the International Health Regulations (2005) public health events that involve the risk of cholera cases should be evaluated on the basis of Annex 2 of the IHR, and—in accordance with it—the WHO Contact Point for IHR should be notified.

The surveillance of cholera should be part of an integrated surveillance system of a country and should include timely feedback to information at both local and global levels. It is recommended to use the WHO standardized case definition to obtain a more precise estimation of the cholera burden at the global level in order to define more sustainable support strategies.

In countries where no cholera cases have been reported, the following is recommended:

- Monitor the trend of acute diarrhea diseases with an emphasis on adults.
- Immediate notification of all suspected cases from the local to the central and peripheral level.
- Investigation of all suspected cases and clusters.
- Laboratory confirmation of all suspected cases.

In an outbreak situation the following measures are recommended:

- Intensified surveillance with the inclusion of active case finding.
- Laboratory confirmation to monitor the geographic spread and the resistance pattern.
- Weekly analysis of the number of cases and deaths by age, sex, geographical location and hospital admission.

### Diagnosis

The diagnosis of cholera is established by the isolation of *V. cholerae* or by serological evidence of recent infection.

It is important that public health laboratories in the Region are prepared to identify the two serotypes, Ogawa and Inaba. In annex is a flowchart for the identification of serotypes (Annex1).

### Treatment

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

It is recommended to administer liquids intravenously to patients that have lost more than 10-20 ml/kg/h or patients with severe dehydration. Following the replacement of the initial liquid lost, the best guide for fluid therapy is to record losses and gains in fluids and to adjust administration as appropriate.

The administration of appropriate antibiotics, especially in severe cases, shortens the duration of diarrhea, reduces the volume of hydration fluids necessary, and shortens the time *V. cholerae* is excreted.

The massive administration of antibiotics is not recommended because it has no effect on the spread of cholera and contributes to the production of bacterial resistance. With appropriate treatment the fatality rate is less than 1%.

In order to provide timely access to treatment, cholera treatment centers should be established in affected populations. These centers should be located at strategic points to maximize the number of affected individuals that can be treated outside of a hospital setting and based on management protocols defined by and agreed to by all parties.

Response plans must provide for coordination between treatment centers, healthcare centers, and levels of care in the communities in which they are located and should include the dissemination of proper hygiene practices and public health measures.

## Prevention Measures

### Prevention in the health care setting

The following recommendations are aimed to reduce the transmission of fecal-oral infection of cholera in healthcare environments:

- Wash hands with soap and water or glycerine alcohol before and after patient contact.
- Use of gloves and gowns for close contact with patients and contact with excretions or secretions.
- Isolation of patients in a single room or of cohorts.
- Separation of beds by more than one meter.
- Cleaning of debris and organic material with sodium hypochlorite (bleach) dilution (1:10).
- Cleaning of environment with sodium hypochlorite (bleach) dilution (1:100).
- Persons who care for children that use diapers or people with incontinence must strictly follow the same precautionary measures cited above, especially those related to hand hygiene (after changing diapers and contact with excretions). In addition, it is recommended to change soiled diapers frequently.

### Preparedness and Response

The implementation of prevention activities in the medium and long term is the key in the fight against cholera. Generally, the response to cholera outbreaks tends to be reactive and take the shape of an emergency response; this approach prevents many deaths, but not cholera cases themselves.

A coordinated multidisciplinary approach, supported by a timely and effective surveillance system is recommended for prevention, preparedness, and response.

Key sectors that should be involved are:

- Health care
- Water supply and sanitation

- Agriculture and Fisheries
- Education
- Professional associations, non-governmental organizations and international partners in the country.

## Water supply and sanitation

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

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

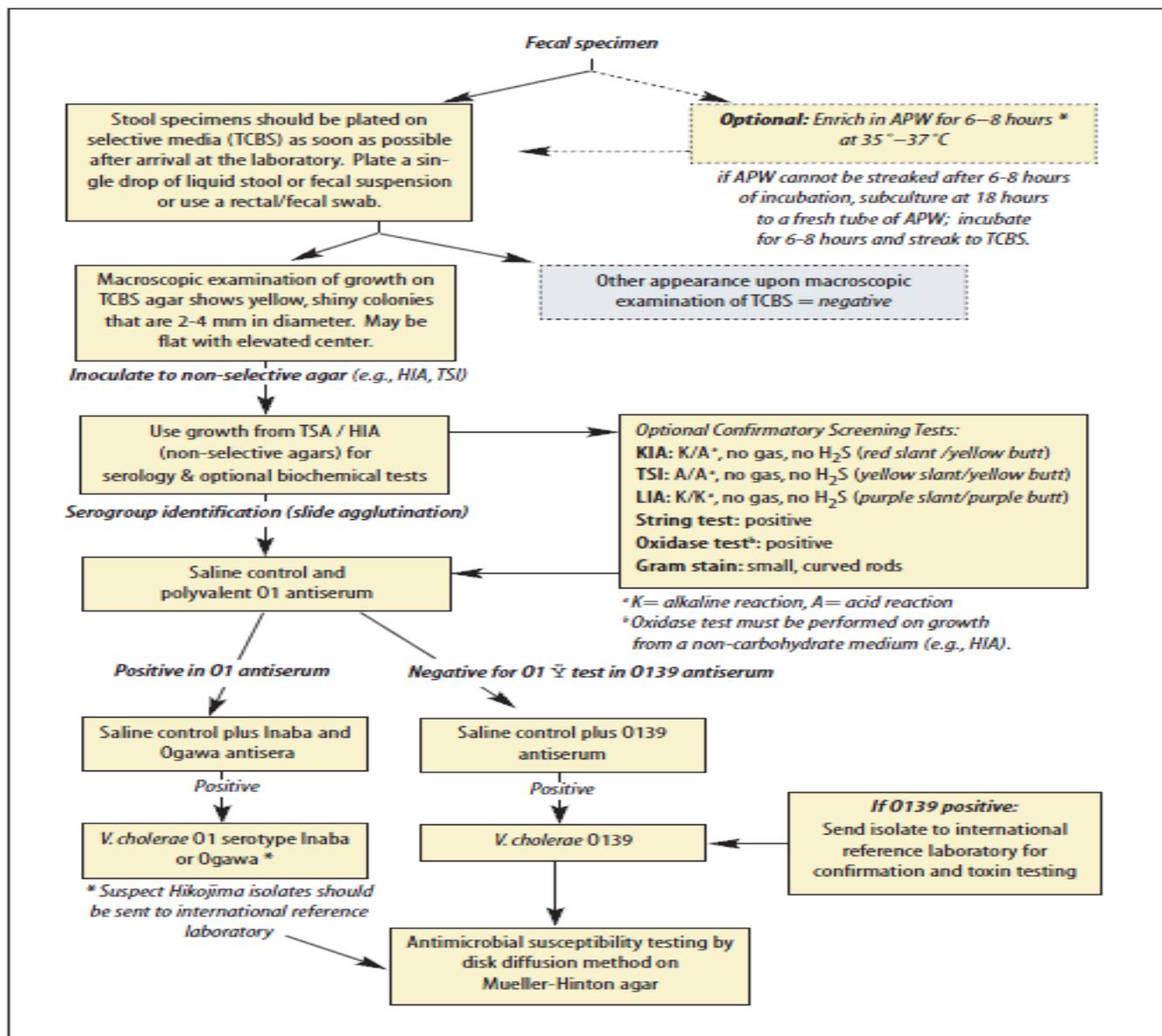
## Travel and international trade

Experience has shown that measures such as quarantine—to limit movement of people--and the seizure of goods are ineffective and unnecessary in controlling the spread of cholera. Therefore, restricting the movement of people or imposing restrictions on imported food produced by good manufacturing practices, based solely on the fact that there is a cholera epidemic or endemic in a country, is not justified.

## References

1. Haiti Ministry of Public Health and Population: Daily Reports of MSPP on the Evolution of Cholera in Haiti (Rapports journaliers du MSPP sur l'évolution du cholera en Haiti). Port-au-Prince, Haiti; 2012. Available in French at: <http://www.mspp.gouv.ht/site/index.php>
2. The Dominican Republic Epidemiological Bulletin. Epidemiological Week 16, 2012. Available in Spanish at: <http://www.sespasdigepi.gob.do/>
3. J Brunkard and DF Talkington. Notes from the Field: Identification of *Vibrio cholerae* Serogroup O1, Serotype Inaba, Biotype El Tor Strain — Haiti, March 2012. [Morbidity and Mortality Weekly Report](#) May 4, 2012 / 61(17);310-31.

Annex 1- Flowchart for isolation and identification of *Vibrio cholerae*



Agglutination reactions in absorbed antiserum of serotypes of *Vibrio cholerae* serogroup O1

<i>V. cholerae</i> O1 serotype	Ogawa antiserum	Inaba antiserum
Ogawa	+ <sup>a</sup>	- <sup>b</sup>
Inaba	-	+
Hikojima <sup>c</sup>	+	+

<sup>a</sup> + indicates a positive agglutination reaction in the absorbed antiserum.

<sup>b</sup> - indicates a negative agglutination reaction in the absorbed antiserum.

<sup>c</sup> If there is a positive reaction in both Ogawa and Inaba antisera and the Hikojima serotype is suspected, send the isolate to an international reference laboratory, following packing regulations as presented in Appendix 12.