

Diphtheria in the Americas - Summary of the situation

In 2020, Haiti and the Bolivarian Republic of Venezuela have reported confirmed cases.

The following is a summary of the epidemiological situation reported by Haiti and Venezuela.

In **Haiti**, between epidemiological week (EW) 32 of 2014 and EW 17 of 2020, there were 1,033 suspected diphtheria cases¹ reported, including 130 deaths; of the total cases, 345 were confirmed (335 laboratory-confirmed and 10 by epidemiological link) (**Table 1**).

Table 1. Suspected and confirmed cases of diphtheria reported in Haiti, 2014-2020 (until EW 17 of 2020)².

Year	Suspected cases	Confirmed cases*	Confirmed Deaths**	Case-fatality rate** (%)
2014	18	4	2	50%
2015	77	31	7	23%
2016	118	57	23	40%
2017	194	77	5	7%
2018	375	101	14	14%
2019	195	55	12	22%
2020	56	20	4	6%
Total	1,033	345	67	19%

*Confirmed by laboratory criteria or epidemiological link

**Among confirmed cases

Source : Haiti Ministère de la Santé Publique et de la Population (MSPP)

The number of suspected cases reported between EW 1 and EW 17 of 2020 (56 cases) is lower than the number reported during the same period in 2018 (143 cases) and in 2019 (59 cases).

In 2020, among the 56 suspected cases, 20 cases including 4 deaths were confirmed (19 laboratory-confirmed and one by epidemiological link).

¹ Per the Haiti MSPP, a suspected case is defined as any person, of any age, that presents with laryngitis, pharyngitis, or tonsillitis with false adherent membranes in the tonsils, pharynx and / or nasal pits, associated with edema of the neck.

² Preliminary data subject to change based on retrospective investigation.

Between EW 1 and EW 17 of 2020, among the 20 confirmed cases, 46.4% have been reported in the age group of 6 to 14-year-olds and 34% in the group of 15-years and older. Regarding the deaths, 3 occurred among de 6 to 14-year-olds and one among the 1 to 5-year-olds.

In 2020, the highest cumulative incidence rates of probable cases have been reported in the communes of Dondon (69.35 cases per 100,000 population) in the Nord Department; Cerca Carvajal (64.5 cases per 100,000 population) and Mirebalais (49.1 per 100,000 population) in the Centre Department; and Thiotte (48.7 per 100,000 population) in the Sud Est Department.

Figure 1. Distribution of reported diphtheria cases by epidemiological week of symptom onset, Haiti, EW 32 of 2014 to EW 17 of 2020.



*Other cases refer to all cases with negative laboratory results, those for which test results are pending, or those for which viable samples were not available.

Source : Haiti Ministère de la Santé Publique et de la Population (MSPP). Data reproduced by PAHO/WHO.

In **Venezuela**, the diphtheria outbreak began in July 2016 and as of EW 17 of 2020 a total of 3,097 suspected have been reported (324 cases in 2016, 1,040 in 2017, 1,208 in 2018, 488 in 2019, and 37 in 2020); of the total, 1,788 have been confirmed (581 by laboratory and 1,207 by clinical criteria or epidemiological link). A total of 294 deaths have been reported.

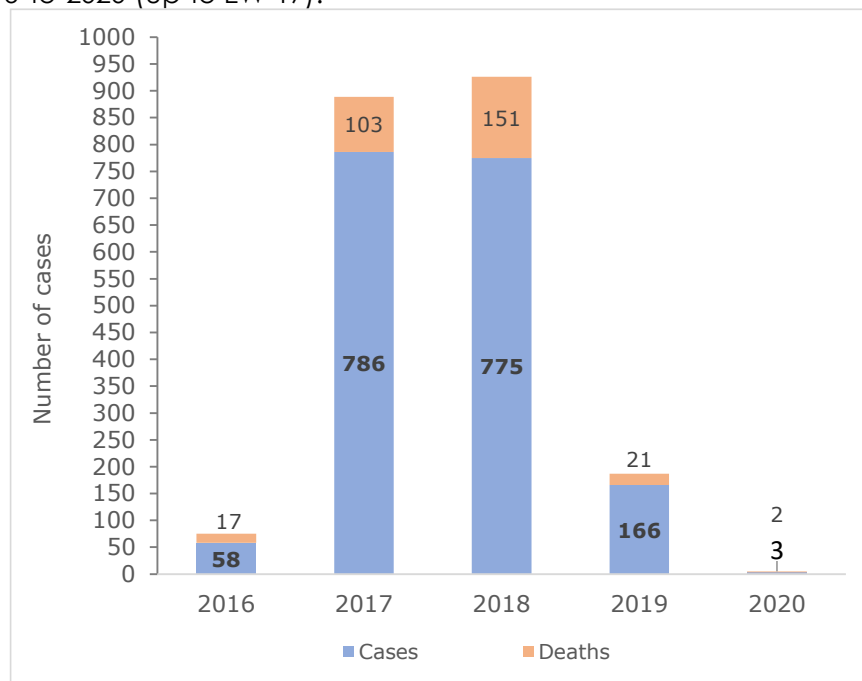
The confirmed cases are as the following: 58 cases included 17 deaths in 2016, 786 cases included 103 deaths in 2017, 775 cases included 151 deaths in 2018, 166 cases included 21 deaths in 2019 and 3 cases included 2 deaths in 2020.

Since the beginning of the outbreak, a trend of a sustained increase in cases was observed until 2018, followed by a decreased trend observed in 2019; it is expected the number of cases will continue to decrease in 2020 (**Figure 2**).

In 2019, the highest case fatality rate was observed in the age group of 5 to 9-year-olds (33%), followed by the groups of 1-year-old (25%) and 40 to 49-year-olds (20%).

Between EW 1 and EW 17 of 2020, 37 suspected cases were reported, of which 3 were confirmed (2 by laboratory and 1 by clinical criteria or epidemiological link), from the following age groups 2 to 4-year-olds and 5 to 9-year-olds.

Figure 2. Distribution of confirmed diphtheria cases and deaths by year of symptom onset. Venezuela, 2016 to 2020 (up to EW 17).



Source: Data from the Venezuela Ministry of Popular Power for Health and reproduced by PAHO/WHO

Between EW 1 and EW 17 of 2020, the cases have been reported from Anzoátegui and Miranda States, municipalities of José Gregorio Monagas (2 cases) and Buroz (1 case) respectively.

Advice for Member States

In light of the current COVID-19 pandemic, the Pan American Health Organization/World Health Organization (PAHO/WHO) has issued guiding principles for immunization activities during the COVID-19 pandemic, updated on 24 April of 2020, available at <https://bit.ly/2YK9SIV> with the support of the in consultation with the members of the PAHO/WHO Technical Advisory Group (TAG) for vaccine preventable diseases (VPD), and aligned with the recommendations of the WHO's Strategic Advisory Group of Experts on Immunization (SAGE).

PAHO/WHO reiterates to Member States the recommendations to continue their efforts to ensure vaccination coverage over 95% with the primary series (3 doses) and booster doses (3 doses). This vaccination scheme will provide protection throughout adolescence and adulthood (up to 39 years and possibly beyond). Booster doses of diphtheria vaccine should be given in combination with tetanus toxoid, using the same schedule and age-appropriate vaccine formulations, namely diphtheria, tetanus, and pertussis (DPT) for children aged 1 to 7-years old, and diphtheria toxoid (Td) for children over 7-years old, adolescents, and adults.

PAHO/WHO stresses that the most at-risk populations are unvaccinated children under 5 years of age, school-aged children, healthcare workers, military service personnel, inmate communities, and persons who, due to the nature of their occupation, are in contact with a large number of persons on a daily basis.

Although travelers do not have a special risk for diphtheria infection, it is recommended that national authorities remind travelers going to areas with diphtheria outbreaks to be properly vaccinated prior to travel in accordance with the national vaccination scheme established in each country. If more than five years have passed since their last dose, a booster dose is recommended.

PAHO/WHO recommends that Member States strengthen their surveillance systems and their capacity of laboratory diagnosis through culture, ELEK test, and Polymerase Chain Reaction (PCR) for diphtheria toxin (*tox*) gene.

PAHO/WHO recommends maintaining a supply of diphtheria antitoxin.

Vaccination is key to preventing cases and outbreaks, and adequate clinical management reduces complications and mortality.

Sources of information

1. **Haiti** Ministère de la Santé Publique et de la Population (MSPP) report received by PAHO/WHO via email communication.
2. **Venezuela** International Health Regulations (IHR) National Focal Point (NFP) report received by PAHO/WHO via email communication.

References

1. Diphtheria vaccine: WHO position paper – August 2017. Available at: <http://bit.ly/2CCN7UW>
2. Final report of the 3rd Ad-Hoc Meeting of the Technical Advisory Group (TAG). Ad-hoc Virtual Meeting, March 19, 2018. Available at: <https://bit.ly/2wsLelk>