

Diphtheria in the Americas - Summary of the situation

Between epidemiological week (EW) 1 and EW 49 of 2018, three countries in the Region of the Americas (Colombia, Haiti, and the Bolivarian Republic of Venezuela) have reported confirmed cases of diphtheria. In Haiti and Venezuela, the outbreaks are ongoing.

The following is a summary of the epidemiological situation in these countries.

In **Colombia**, 8 confirmed cases including 3 deaths were reported this year; however, since July 2018, no additional cases of diphtheria have been reported.

In **Haiti**, between EW 51 of 2014 and EW 49 of 2018, there were 774 probable cases¹ reported, including 105 deaths; of these, 261 were confirmed (254 by laboratory criteria and 7 by epidemiological link) (**Table 1**).

Table 1. Probable and confirmed diphtheria cases in Haiti, 2014-2018 (up to EW 49).

Year	Probable cases	Confirmed cases*	Deaths (confirmed for diphtheria)	Case-fatality rate (%)
2014	23	4	2	50%
2015	77	31	7	23%
2016	118	57	22	39%
2017	194	73	6	8%
2018	362	96	14	15%
Total	774	261	51	20%

*by laboratory criteria or epidemiological link

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

The number of probable cases reported in 2018 is higher than the total number of cases reported in 2017 and 2016, an increase that is attributed to greater sensitivity of the national surveillance system. The case-fatality rate among cases confirmed by laboratory or epidemiological link was 23% in 2015, 39% in 2016, 8% in 2017, and 15% in 2018.

In 2018, there were 362 probable cases reported (between EW 1 and EW 49), including 96 confirmed cases (91 by laboratory and 5 by epidemiological link). During the same period,

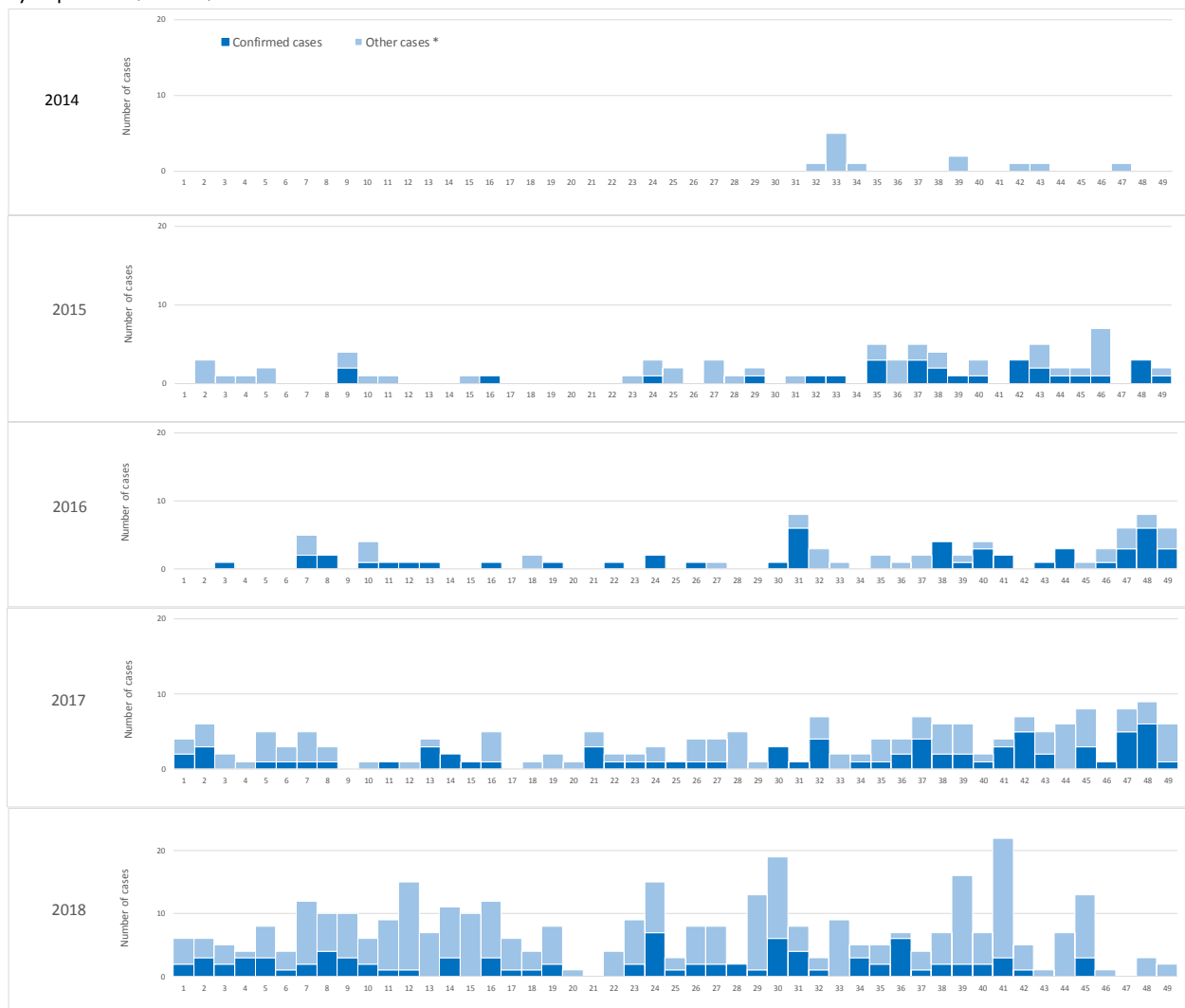
¹ Per the Haiti Ministry of Public Health and Population, a probable case is defined as any person, of any age, that presents with laryngitis, pharyngitis, or tonsillitis with false adherent membranes in the tonsils, pharynx and / or nasal pits, associated with edema of the neck.

there were 28 deaths reported (14 confirmed by laboratory or epidemiological link, 8 with no viable laboratory samples, 5 that remain under investigation, and one that was discarded).

Among confirmed cases in 2018, the highest incidence rate is observed in the age group of 6 to 14-year-olds, followed by 1 to 5-year-olds. The majority of deaths (63%) occurred among the age group of 6 to 14-year-olds, followed by 1 to 5-year-olds.

In 2018, the highest cumulative incidence rates per 100,000 population were reported in the municipalities of Gros-Morne, Artibonite Department (19.9), Vallière, Nord-Est Department (17.0), La Victoire, Nord Department (9.5), and Cerca-Carvajal (12.9), Thomonde (9.7), and Savanette (8.3) in Centre Department.

Figure 1. Distribution of reported diphtheria cases by epidemiological week of onset of symptoms, Haiti, EW 32 of 2014 to EW 49 of 2018

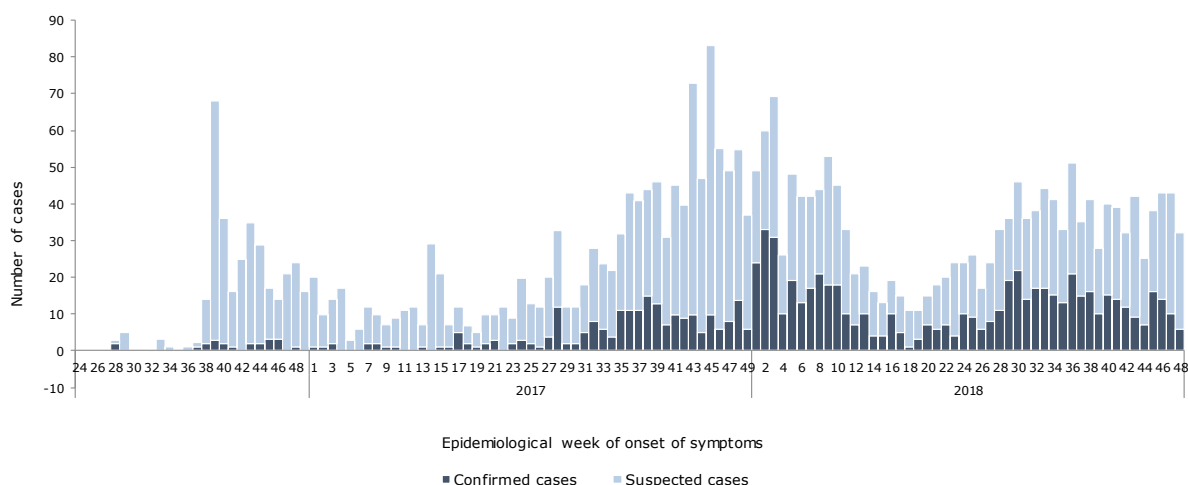


*Other cases refers to all cases with negative laboratory results, those for which test results are pending, or those for which viable samples were not available.

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

In **Venezuela**, the diphtheria outbreak that began in July 2016 remains ongoing (**Figure 2**). Since the beginning of the outbreak until EW 48 of 2018, a total of 2,360 suspected cases were reported (324 cases in 2016, 1,040 in 2017, and 996 in 2018); of these, 1,310 were confirmed. A total of 238 deaths were reported (17 in 2016, 103 in 2017, and 118 in 2018²); 345 cases were discarded in 2018. The case-fatality rate was 18.2% in 2016, 13% in 2017, and 21% in 2018.

Figure 2. Distribution of suspected and confirmed cases of diphtheria by epidemiological week of onset of symptoms, Venezuela, EW 28 of 2016 to EW 48 of 2018



Source: SIS 04/EPI 12 years 2016, 2017, 2018. DVE/Coordination of Surveillance of Vaccine-Preventable Diseases. Venezuela Ministry of Popular Power for Health. Data reproduced by PAHO/WHO

In 2016, cases were reported in 5 states (Anzoátegui, Bolívar, Delta Amacuro, Monagas, and Sucre), while in 2017 cases were reported in 22 states and the Capital District. In 2018, 22 federal entities and 99 municipalities have reported confirmed cases. Cases have been reported among all age groups, but the most affected age group is 1 to 39-year-olds, of which the highest incidence rate is reported among 11 to 39-year-olds.

In EW 48 of 2018, there were 17 federal entities and 35 municipalities affected, accordingly vaccination and control activities continue to be implemented.

Advice for Member States

The Pan American Health Organization / World Health Organization (PAHO/WHO) recommends that Member States 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,

² In the PAHO/WHO. Epidemiological Update: Diphtheria. 29 October 2018, Washington, D.C.: PAHO/WHO; 2018, Available at: <https://bit.ly/2JmPQWB>, there were 167 deaths reported for 2018, with a cumulative case-fatality rate for 2016-2018 (as of EW 41) of 23%. The adjusted number was provided by the Venezuela International Health Regulations (IHR) National Focal Point.

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, schoolchildren, 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 for the early detection of suspected cases in order to initiate timely treatment of cases and follow-up of contacts, as well as maintaining a supply of diphtheria antitoxin.

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

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>