Epidemiological Update
Diphtheria

29 October 2018

Diphtheria in the Americas - Summary of the situation

Between epidemiological week (EW) 1 and EW 41 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 have been reported. Since July 2018, there have been no additional cases of diphtheria reported.

In **Haiti**, the outbreak is ongoing with a cumulative total of 712 probable cases[1], including 105 deaths, reported between EW 51 of 2014 and EW 41 of 2018 (**Figure 1**). Of the total cases, 249 cases were confirmed (242 by laboratory and 7 by epidemiological link). The number of probable cases reported in 2018 is higher than the total number of cases reported in 2017 and 2016 due to increased sensitivity of the national surveillance system.

The case-fatality rate among laboratory-confirmed cases was 23% in 2015, 37% in 2016, 8% in 2017, and 9% in 2018.

Between EW 1 and EW 41 of 2018, 319 probable cases were reported, including 80 confirmed cases (75 by laboratory and 5 by epidemiological link). During the same period, there were 25 deaths reported (12 laboratory-confirmed or by epidemiological link, 8 with no viable laboratory samples, 4 under investigation, and one that was discarded).

Among confirmed cases in 2018 (n=80), ages range from 2 to 33 years, 91% are less than 15 years old, and 49% are female.

[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.

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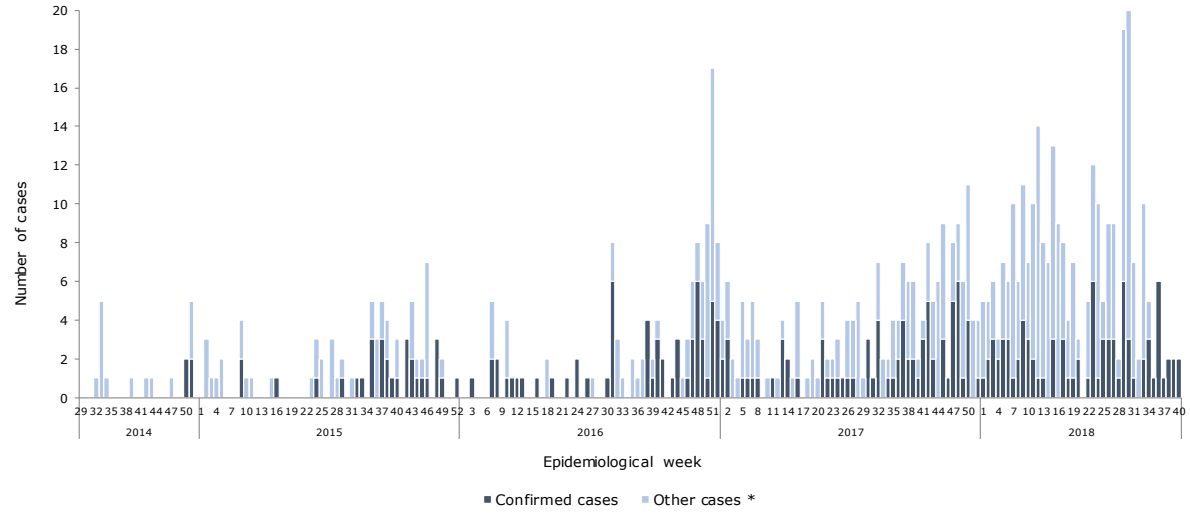
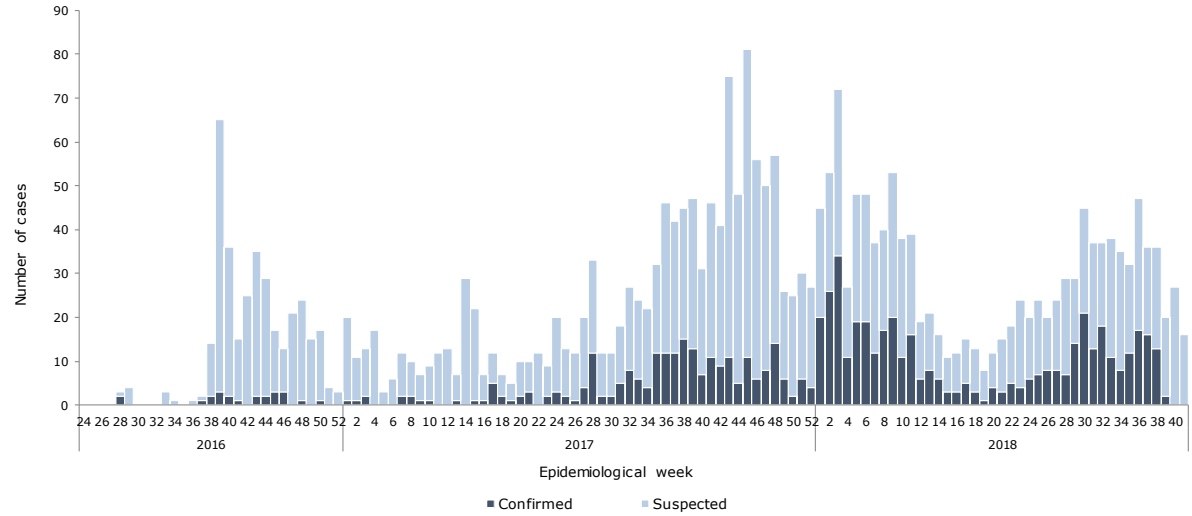
Figure 1. Distribution of reported diphtheria cases by epidemiological week and year, Haiti, EW 32 of 2014 to EW 41 of 2018



*Other cases refer to all cases that were not classified as confirmed: those with negative laboratory results, those for which test results are pending, and 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 41 of 2018, a total of 2,170 suspected cases were reported (324 cases in 2016, 1,040 in 2017, and 800 in 2018); of these, 1,249 were confirmed. A total of 287 deaths were reported (17 in 2016, 103 in 2017, and 167 in 2018). The cumulative case-fatality rate among confirmed cases is 23%.

Figure 2. Distribution of suspected and confirmed cases of diphtheria by epidemiological week, Venezuela, EW 28 of 2016 to EW 41 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 have reported confirmed cases. Cases have been reported among all age groups, but the most affected group is 1 to 39-year-olds, of which the highest incidence rate is among 10 to 14-year-olds followed by 5 to 9-year-olds.

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, 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/2wsLeIk