Epidemiological Update
Diphtheria

21 September 2018

Diphtheria in the Americas - Summary of the situation

Between epidemiological week (EW) 1 and EW 37 of 2018, three countries in the Region of the Americas (Colombia, Haiti, and the Bolivarian Republic of Venezuela) have reported confirmed cases of diphtheria. While in Colombia no new cases have been detected (since July 2018), in Haiti and Venezuela the outbreaks are ongoing.

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

In **Colombia**, since the last PAHO/WHO Epidemiological Update published on 29 August 2018[1], no additional diphtheria and no deaths have been reported. Accordingly, the total of confirmed diphtheria cases reported to date in 2018 remains 8, including 3 deaths.

In **Haiti**, the outbreak is ongoing with a cumulative total of 673 probable cases[2], including 102 deaths, reported between EW 51 of 2014 and EW 38 of 2018 (**Figure 1**). Of the total cases, 240 cases were confirmed (233 by laboratory and 7 by epidemiological link). The case-fatality rate among laboratory-confirmed cases was 23% in 2015, 39% in 2016, and 8% in both 2017 and 2018.

In 2018, the probable cases ranged in age from 0 to 78 years old, with 65% under 15 years old. Regarding gender, 60% of the total cases were female, while in 2015, 2016, and 2017 that proportion was 57%, 50%, and 59%, respectively.

The number of probable cases reported in 2018 until EW 38 is 46% higher than the total number of cases reported in 2017 and 142% higher than that reported in 2016 due to the increased sensitivity of the national surveillance system.

Between EW 1 and EW 38 of 2018, 281 probable cases were reported, including 70 confirmed cases (65 by laboratory and 5 by epidemiological link). During the same period, there were 22 deaths reported (10 laboratory-confirmed or by epidemiological link, 8 with no viable laboratory samples, 3 under investigation, and one that was discarded).

With respect to the characteristics of the confirmed and reported cases in 2018 (n=70), 91% are less than 15 years old (age range 1 to 40 years) and 56% are female.

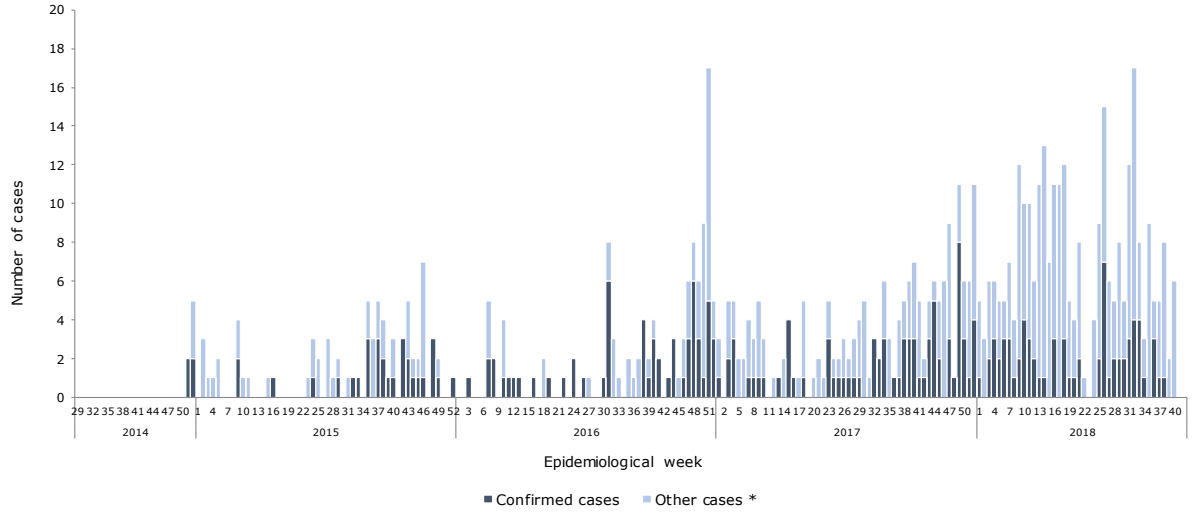
---

[1] PAHO/WHO. Epidemiological Update: Diphtheria. 29 August 2018, Washington, D.C.: PAHO/WHO; 2018. Available at: https://bit.ly/2MCREzx

[2] 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.

Suggested citation: Pan American Health Organization / World Health Organization. Epidemiological Update: Diphtheria. 21 September 2018, Washington, D.C.: PAHO/WHO; 2018

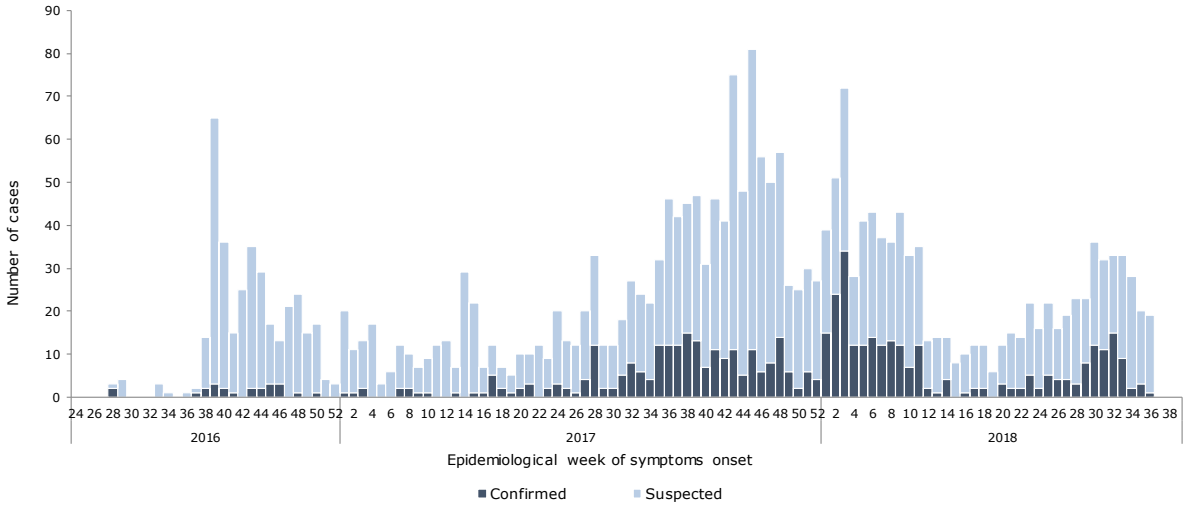
Figure 1. Distribution of reported cases of diphtheria by epidemiological week and year of notification, Haiti, EW 32 of 2014 to EW 38 of 2018



*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 36 of 2018, a total of 2,028 suspected cases were reported (324 cases in 2016, 1,040 in 2017, and 660 in 2018); of these, 1,217 were confirmed. A total of 201 fatal cases were reported (17 in 2016, 103 in 2017, and 81 in 2018). The cumulative case-fatality rate among confirmed cases is 16.5%.

Figure 2. Distribution of suspected and confirmed cases of diphtheria by epidemiological week of symptom onset, Venezuela, EW 28 of 2016 to EW 36 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

While in 2016 cases were reported in 5 states (Anzoátegui, Bolívar, Delta Amacuro, Monagas, and Sucre), in 2017 the outbreak had been spread to 22 states and the Capital District. In 2018, to date, 22 federal entities are reporting confirmed cases. Cases have been reported among

all age groups, but the most affected group is 1 to 39 years old, of which the highest incidence rate is among 10 to 14 years old.

Advice for Member States

The Pan American Health Organization / World Health Organization (PAHO/WHO) recommends 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 DPT (diphtheria, tetanus, and pertussis) for children from 1 to 7-years-old and Td (diphtheria toxoid) for immunization of older children (over 7 years old), adolescents, and adults.

PAHO/WHO stresses that the populations at greatest risk 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 the 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