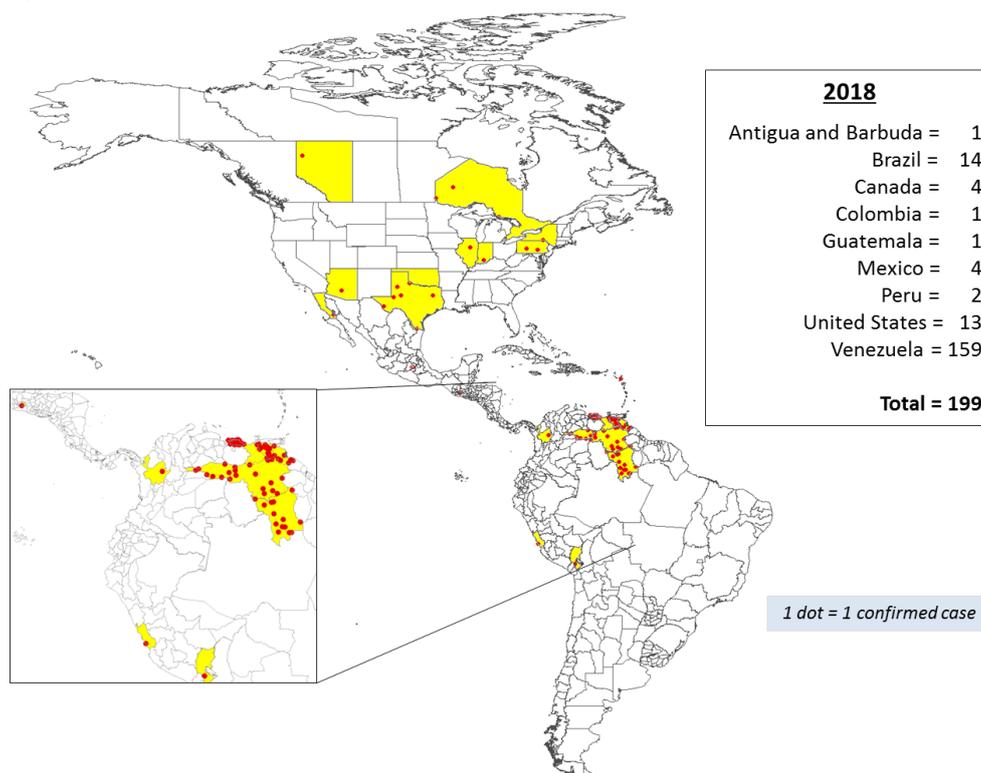


Situation Summary

In 2017, four countries in the Region of the Americas reported confirmed cases of measles: Argentina (3 cases), Canada (45 cases), the United States of America (120 cases), and the Bolivarian Republic of Venezuela (727 cases).

In the first three months of 2018, a total of 9 countries have reported confirmed cases: Antigua and Barbuda (1 case), Brazil (14 cases), Canada (4 cases), Colombia (1), the United States of America (13 cases), Guatemala (1 case), Mexico (4 cases), Peru (2 cases), and Venezuela (159 cases). **Figure 1.**

Figure 1. Distribution of confirmed measles cases by sub-national level. Region of the Americas, 2018*



Sources: Surveillance country reports sent to the Immunization Unit of PAHO/WHO and by the Ministry of Health of Venezuela.

*Data as of epidemiological week (EW) 11 of 2018

Following is a summary of the situation by the countries reporting measles cases in 2018.

Suggested citation: Pan American Health Organization / World Health Organization. Epidemiological Update: Measles. 16 March 2018, Washington, D.C.: PAHO/WHO; 2018

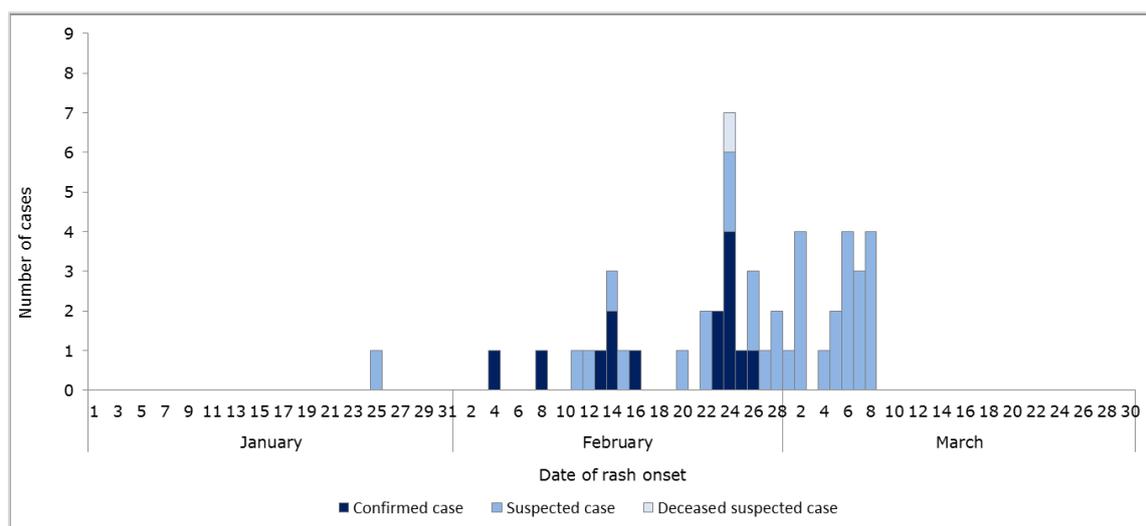
The reported cases in **Antigua and Barbuda** and in **Guatemala** are both imported cases, from the United Kingdom and Germany respectively. The full report is available in the [PAHO/WHO 6 February 2018 Epidemiological Update on measles](#).

In **Brazil**, there is an ongoing measles outbreak with cases reported in the municipalities of Boa Vista and Pacaraima, Roraima state. Since the detection of the first case in epidemiological week (EW) 8 of 2018 up to 12 March of 2018, 50 suspected measles cases (43 in Boa Vista municipality and 7 in Pacaraima municipality) have been reported. Of these, 14 were laboratory confirmed by serological and molecular tests, and 36 remain under investigation (including one fatal case) (**Figure 2**).

All of the confirmed cases are unvaccinated, Venezuelan citizens, with ages ranging between 9-months to 18-years-old; 10 are male.

According to the laboratory analysis conducted by the Oswaldo Cruz Foundation (Fiocruz/RJ), the genotype identified in all of the laboratory confirmed cases is D8. This genotype is identical to the one identified in Venezuela in 2017.

Figure 2. Reported measles cases by epidemiological week of rash onset. Roraima State, Brazil. 1 January to 12 March 2018.



Source: Data provided by the Ministry of Health of Brazil and reproduced by PAHO/WHO.

The actions implemented include:

- Measles vaccination campaign in 15 municipalities of Roraima state, targeting persons from 6 months of age to 49 years old and immigrants from Venezuela.
- Intensified epidemiological surveillance through active and retrospective institutional case finding, contact tracing, and monitoring of contacts.
- Strengthening of laboratory network.
- Risk communication.

In **Colombia**, in EW 11 of 2018, a case of measles was reported in a 14-month-old male child, Venezuelan national from the city of Caracas, Venezuela, who remains hospitalized. The case was reported by the municipality of Medellín, Antioquia Department. The child arrived in Colombia on 2 March and onset of rash was 8 March. The National Institute of Health reported the detection of IgM antibodies for measles in

serum sample and for detection of virus by reverse transcription polymerase chain reaction (RT-PCR) from a pharyngeal swab on 14 March.

The actions implemented include:

- Detection and follow up of contacts; all are asymptomatic to date.
- Active case finding in institutions and in the community.
- Vaccination of susceptible persons.

In **Mexico**, between EW 1 and 10 of 2018, four measles cases were reported, all imported or associated with importation.

The first case was reported in EW 7, in a 38-year-old female resident of Tijuana, Baja California, who was a contact of a confirmed measles case identified on an international flight. The case was confirmed by the Institute of Epidemiological Diagnosis and Reference (InDRE, per its acronym in Spanish) through real time RT-PCR molecular testing; phylogenetic analysis identified genotype B3.

Three additional cases of measles were confirmed in Mexico City, with onsets of rash between EW 7 and EW 10 of 2018. These cases are linked and are in a 39-year-old female, her nearly 1-year-old son, and a 48-year-old female caretaker of the child.

Regarding the vaccination history of the 4 confirmed cases, one of the cases was vaccinated, one was not vaccinated (< 1 year old), and two had unknown vaccination histories.

In EW 10, a probable measles case was detected in a 4-year-old foreigner who visited the city of Guasave, Sinaloa State; the case has already returned to their country of residence. Onset of rash was 28 February. The serological test conducted by InDRE resulted with positive serology for measles. The case's country of residence has been informed and final classification is pending.

The actions implemented include:

- Identification and monitoring of contacts.
- Active case finding and identification of contacts near the home of the confirmed cases.
- Active case finding in the healthcare facilities where the confirmed cases sought medical attention.
- Daily notification of probable cases in Mexico City.
- Assessment of vaccine coverage and vaccination of susceptible persons.
- Public awareness communication campaign.

In **Peru**, between EW 9 and EW 11 of 2018, there were two confirmed measles cases reported in residents of Peru without travel history outside of the country.

The first case was reported on 2 March 2018, in a 46-year-old male, with rash onset on 24 February 2018, resident of the Callao district and with probable site of infection under investigation. During the incubation period, the case travelled between Lima and Callao and the district of Vilque Chico (Puno).

The second case was reported on 12 March, in a 16-year-old male, with rash onset on 28 February; this case was identified through the active case search carried out in the city of Juliaca, San Román district of Puno.

Both cases were laboratory confirmed through serological and RT-PCR tests carried out by the National Institute of Health (NIH).

No imported or imported-related cases have been identified that could be the source of infection in these two confirmed cases.

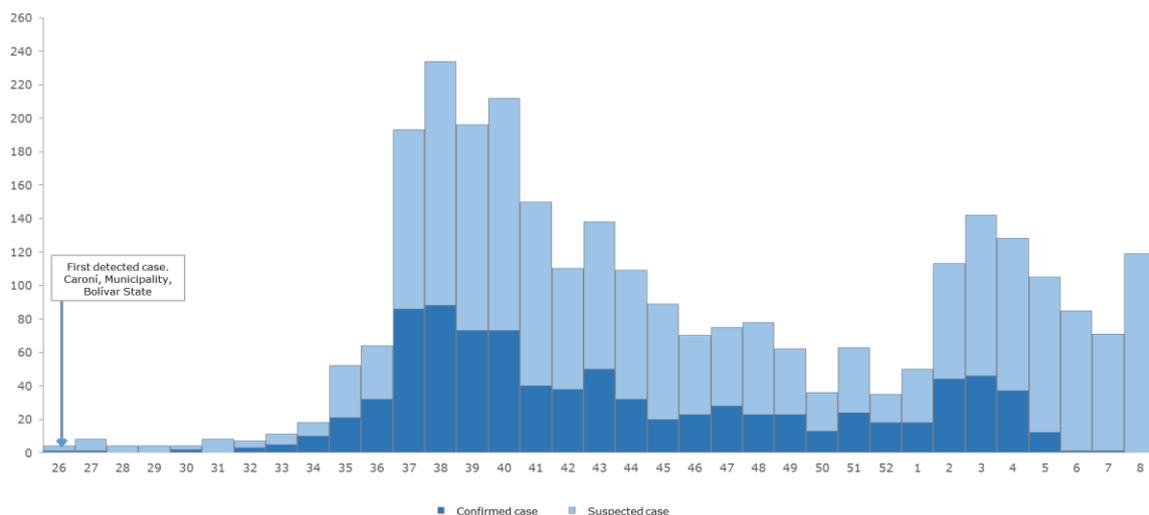
The actions implemented include:

- At-home isolation of the confirmed cases.
- Intensified vaccination activities, including around the residences and in the areas where the cases circulated during their communicable periods.
- Contact tracing.
- Active search of suspected measles cases in health facilities and community. To date, 44 suspected cases were identified, of which 35 were laboratory discarded, 1 was confirmed (the second case reported), and 8 remain under investigation by the NIH.

The last autochthonous measles case in Peru was reported in 2000 in the Ventanilla district (Callao Region).

In **Venezuela**, since the first measles case was confirmed in EW 26 of 2017 and up to EW 7 of 2018, there were 886¹ confirmed cases (666 by laboratory and 220 by epidemiological link), including two deaths. The highest number of cases was observed in EW 38 of 2017 and EW 3 of 2018 (**Figure 3**).

Figure 3. Measles cases by EW of rash onset. Venezuela. EW 26 of 2017 to EW 8 of 2018.



Source: Venezuela Ministry of Popular Power for Health data and reproduced by PAHO/WHO

¹ The provisional data is subject to change due to retrospective adjustment. The difference between the number of confirmed cases reported in the 6 February 2018 Epidemiological Update (952) and the current one (886) is due to this adjustment process.

Of the confirmed cases, 82% occurred in the state of Bolívar; cases were also reported in Apure, Anzoátegui, Delta Amacuro, the Capital District, Miranda, Monagas, Vargas, and Zulia. The municipality of Caroni, Bolívar State, is the epicenter of the outbreak. The spread of the virus to other geographical areas is explained by, among other factors, the high migratory movement of the population due to formal and informal economic activity around mining and commercial activity. The most affected age group among the confirmed cases is children under 5 years of age, followed by the group of 6 to 15 years of age.

As part of the intervention, a *National Rapid Response Plan* was designed to interrupt the transmission of the virus, including the use of regional and municipal rapid response teams, the implementation of vaccination strategies and activities, epidemiological surveillance, contact tracing, and training of health personnel; supported technically by the national level. The country has provided more than 6 million doses of measles, mumps, and rubella (MMR) and measles / rubella (MR) vaccines to increase vaccination coverage in children and adolescents to interrupt viral transmission.

Measles cases in **Canada** and the **United States** are imported or import-associated; 88% of the cases were not vaccinated. Age range of the 17 cases is between 6-months and 49-years-old. The identified genotypes are D8, D4, and B3.

Situation in other Regions

In relation to the epidemiological situation of measles in the European region, in 2017 the number of cases quadrupled compared to those reported in 2016. The disease affected 21,315 people and caused 35 deaths in 2017, after a historical minimum of 5,273 cases in 2016. Seventy-two percent of the cases are reported by the following three countries: Italy, Romania and Ukraine.

Countries from other continents (China, Ethiopia, India, Indonesia, the Lao People's Democratic Republic, Mongolia, the Philippines, Nigeria, Sri Lanka, Sudan, Thailand, and Viet Nam, among others) also reported outbreaks of measles between 2016 and 2017.

Advice to national authorities

In light of continuous reports of imported measles cases from other regions and ongoing outbreaks in the Americas, the Pan American Health Organization / World Health Organization (PAHO / WHO) urges all Member States to:

- **Vaccinate** to maintain homogeneous coverage of 95% with the first and second doses of measles, mumps, rubella (MMR) vaccine in all municipalities, as proposed in the *Plan of Action for the Sustainability of Measles, Rubella, and Congenital Rubella Syndrome Elimination in the Americas 2018-2023*. It is important to maintain a reserve of measles-rubella (MR) vaccines in each country of the Region for imported case control actions.
- **Strengthen epidemiological surveillance** of measles to achieve timely detection of all suspected cases of measles in public and private healthcare facilities, and ensure that samples are received by laboratories within 5 days of being taken.
- Provide a **rapid response** to imported measles cases through the activation of rapid response teams in order to avoid the re-establishment of endemic

transmission. Once a rapid response team has been activated, continued coordination between the national and local levels must be ensured, with permanent and fluid communication channels between all levels (national, sub-national, and local).

References

1. Measles Rubella Weekly Bulletin: Pan American Health Organization. PAHO/WHO. Vol. 24, n. 9, March 2018. Available at: <http://bit.ly/2oVU9iF>
2. WHO Regional Office for Europe. Press Release: Europe observes a 4-fold increase in measles cases in 2017 compared to previous year. Copenhagen. 19 February 2018. Available at: <http://bit.ly/2ETCTnd>
3. 29th Pan American Sanitary Conference, 69th Session of the Regional Committee of WHO for the Americas, *Plan of Action for the Sustainability of Measles, Rubella, and Congenital Rubella Syndrome Elimination in the Americas 2018-2023*. Washington, D.C., USA, 25-29 September 2017. Available at: <http://bit.ly/2tsZRxl>

Related links:

- PAHO/WHO. Vaccine-Preventable Diseases: <http://bit.ly/2G8pQwi>