

Situation Summary

In 2018, between epidemiological week (EW) 1 and EW 18, there were 11 countries that reported 1,115 confirmed cases in the Region of the Americas: Antigua and Barbuda (1 case), Argentina (3 cases), Brazil (104 cases), Canada (9 cases), Colombia (21 cases), Ecuador (3 cases), Guatemala (1 case), Mexico (4 cases), Peru (2 cases), the United States (63 cases), and the Bolivarian Republic of Venezuela (904 cases). This number exceeds what was reported in 2017, when 4 countries in the Region reported 895 confirmed cases: Argentina (3 cases), Canada (45 cases), the United States of America (120 cases), and Venezuela (727 cases).

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

The confirmed measles cases in **Antigua and Barbuda** and in **Guatemala** were both imported, the United Kingdom and Germany, respectively. The Antigua and Barbuda case is a 19-year-old female with rash illness on 19 January. The case in Guatemala is a 17-year-old female, with a two-dose history of vaccination, rash onset 17 January. To date there have been no additional cases linked to these two imported cases.¹

The confirmed cases of measles in **Canada** and the **United States** are imported or associated with importation, and 70% of the cases were not vaccinated. The cases are distributed in 19 states and/or provinces. The highest proportion of cases corresponded to children and adolescents between 5 to 19-years-old (35%), followed by adults 20 to 49-years-old (29%) and infants 6 to 11-months-old (20%). The identified genotypes are D8, D4, and B3. Thirty-five cases involved previous travel to 11 countries: Australia, France, India, Israel, Pakistan, Singapore, Spain, Romania, Uganda, Ukraine and the United Kingdom.

In **Argentina**, 3 measles cases were confirmed, 2 of which had recent travel history to Asia. The cases are an 8-months-old female, a 26-year-old female, and a 21 year-old-male, with rash onset dates of 25 March, 20 March, and 11 March, respectively. With respect to vaccination history, the infant was not vaccinated as she was under one year of age, and the vaccination history of both adults could not be confirmed. All three are residents of Buenos Aires. The genotype identified in the first case is D8, lineage Mvs/Osaka/JPN/29.15. Contact tracing is ongoing.

Actions implemented by the health authorities of Argentina include:

- Contact tracing
- Vaccination of susceptible persons
- Risk communication

¹ Further information available in the Epidemiological Update: Measles. 6 February 2018, Washington, D.C.: PAHO/WHO; 2018. Available at: <https://bit.ly/2wn2xOZ>

In **Brazil**, there is an ongoing measles outbreak with 693 suspected cases reported (358 in Amazonas state and 335 in Roraima state), 103 of which have been confirmed (22 in Amazonas state and 81 in Roraima state), including 2 deaths. In addition, a case was confirmed in the state of Rio Grande do Sul. The case is a one-year-old female with no vaccination history, resident of the municipality of the Sao Luiz Gonzaga municipality; she had travel history to Europe, visiting multiple countries with ongoing measles outbreaks. The genotype identified in this latter case is B3.

In the state of Amazonas, 358 suspected cases were reported, 22 of which were confirmed, 47 were discarded, and 289 remain under investigation. The suspected cases are from 13 municipalities: Anori, Beruri, Careiro da Várzea, Humaitá, Itacoatiara, Itapiranga, Iranduba, Manacapuru, Manaus, Novo Airão, Parintins, São Gabriel da Cachoeira, and Tefé. All 22 confirmed cases are from Manaus, all of them are Brazilian citizens, 12 of which are female. One of the confirmed cases had recently been vaccinated, two were outside the age group recommended for vaccination, and one had no history of vaccination.

In the state of Roraima, 335 suspected cases were reported, 81 of which were confirmed, 20 were discarded, and 234 remain under investigation. The suspected cases are from 12 municipalities: Alto Alegre, Amajari, Boa Vista, Cantá, Caracaraí, Caroebe, Iracema, Maracaíbe, Pacaraima, Rorainópolis, São João da Baliza, Uiramutã. The 81 confirmed cases are from: Boa Vista (59 cases), Cantá (1 case), Pacaraima (19 cases), Maracaíbe (1 case), and Uiramutã (1 case).

Among the 81 confirmed cases in Roraima, 55 are Venezuelans (68%), 24 Brazilians (29.6%), one from Guyana (1.2%), and one from Argentina (1.2%). Of the 55 Venezuelan cases, 29 are indigenous. The 2 measles deaths are Venezuelan children from the municipality of Boa Vista. The ages of the confirmed cases ranged from under 6-months to 30-years-old and 55 of the cases were female. Nine of the confirmed cases were vaccinated (6 during vaccination activity around suspected and confirmed cases or intensified actions and 3 previously). Four cases were hospitalized.

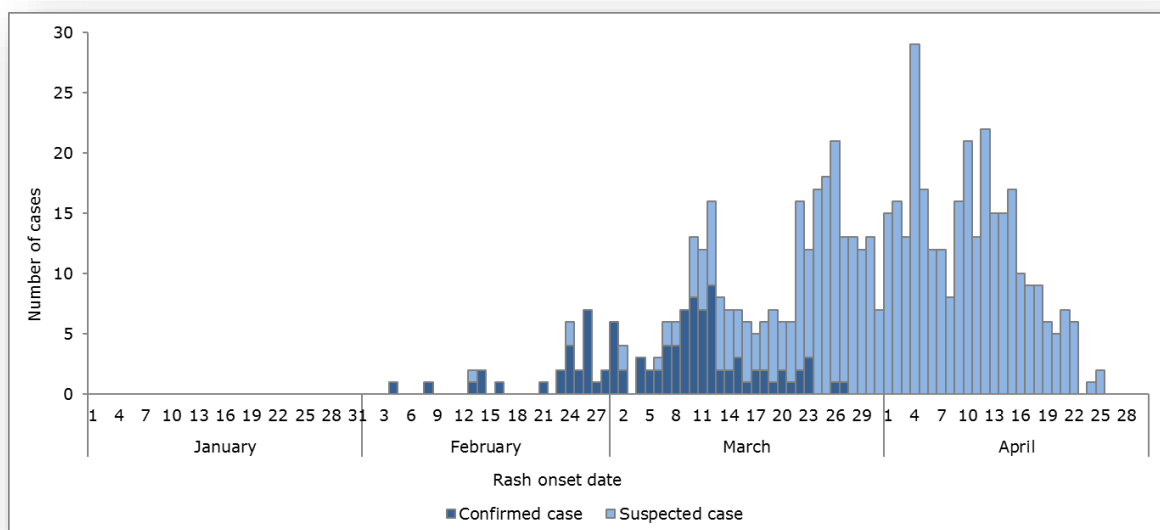
The onset of rash of confirmed cases in both states occurred between 4 February and 27 March 2018. According to the laboratory testing conducted by the Oswaldo Cruz Foundation (Fiocruz/RJ), the genotype identified in all the laboratory confirmed cases is D8. The lineage is identical to the one identified in Venezuela in 2017.

Actions implemented by the health authorities of Brazil include:

- Measles vaccination campaign in the states of Amazonas and Roraima, targeting persons from 6-months to 49-years-old.
- Enhanced surveillance through active and retrospective institutional case finding, contact tracing, and monitoring of contacts.
- Strengthening of laboratory networks.
- Risk communication.
- Training of health professionals in the management of measles cases.

Figure 1 illustrates the progression of the outbreak, showing an increasing trend. The pending results of the 523 cases that remain under investigation should be taken into consideration.

Figure 1. Reported measles cases by EW of rash onset. Amazonas and Roraima states. Brazil. 1 January to 25 April 2018.



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

In **Colombia**, between EW 11 and EW 18 of 2018, there were 21 confirmed measles cases reported (**Figure 2**). Ages ranged between 10-months to 26-years-old. Of the cases, five were female. Rash onset between 8 March and 28 April. Fourteen of the 21 cases were imported from Venezuela, 6 cases are of secondary transmission, in people from Venezuela and in residents of Colombia for more than 4 months, and 1 case is related to importation. No deaths have been reported.

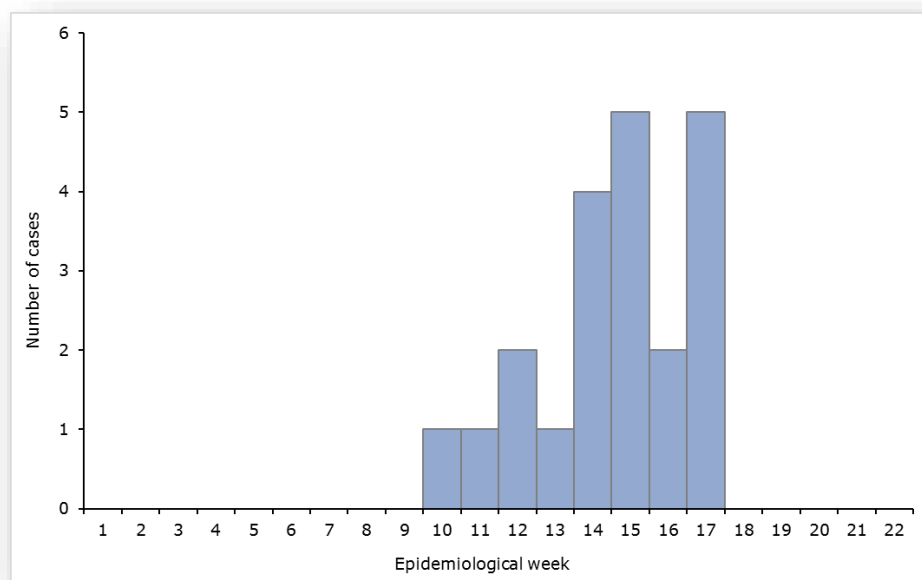
The cases were reported in the departments of: Antioquia, Bolívar, Cauca, Cesar, Norte de Santander, Risaralda, Sucre, and the District of Cartagena.

Laboratory testing of all cases was conducted by the National Health Institute and cases were confirmed by the detection of anti-measles IgM antibodies in serum and by reverse transcription polymerase chain reaction (RT-PCR) in a pharyngeal swab and in urine samples. The genotyping from the first 3 cases indicated genotype D8, lineage MVi/Hulu Langat.MYS/26.111, identical to the one identified in Venezuela in 2017.

Actions implemented by the health authorities of Colombia include:

- Detection and follow up of contacts
- Active case finding in institutions and in the community
- Rapid monitoring of vaccination coverage
- Vaccination of susceptible persons
- Risk communication
- Intensification of measles-rubella surveillance

Figure 2. Reported measles cases by rash onset date. Colombia. EW 10 to EW 17 of 2018.



Source: Data provided by the Colombia International Health Regulations (IHR) National Focal Point (NFP) and reproduced by PAHO/WHO.

In **Ecuador**, in EW 13, EW 15, and EW 16 of 2018, 3 measles cases were confirmed. The cases are a 5-year-old male², an under 4-months-old child residing in Quito, and a 44-year-old man from Venezuela; their rash onset dates were 28 March, 10 April, and 18 April respectively. The under 4-months-old child had been at a healthcare facility at the same time as the first confirmed case. The third case entered Ecuador on 9 April.

The laboratory confirmation of the 3 cases was carried out in the National Reference Laboratory (INSPI, Quito) by serological tests through the detection of anti-measles IgM antibodies in the first case and by the polymerase chain reaction (PCR) in the other two cases.

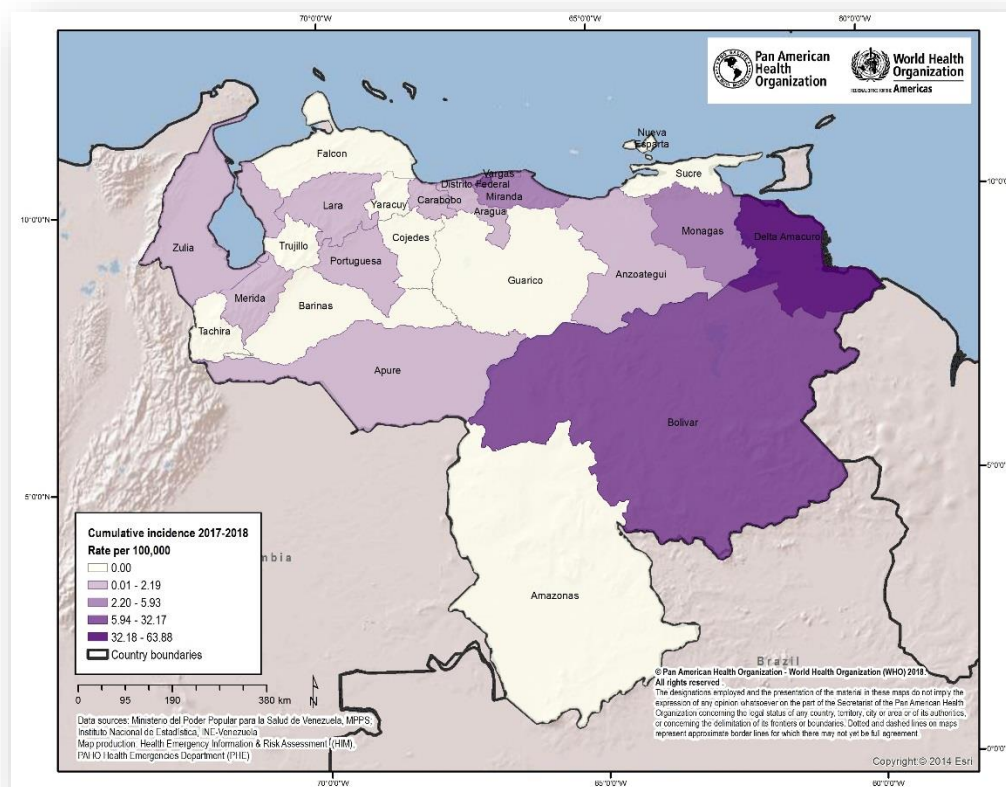
In **Mexico**, 4 imported or import-associated measles cases have been confirmed. The first reported case is a 38-year-old female, resident of Tijuana, Baja California, who was identified through contact tracing of a confirmed measles case who had been onboard the same international flight. The other 3 cases were confirmed in Mexico City, with rash onset dates ranging between EW 7 and EW 10 of 2018. These three cases are related to each other and are a 39-year-old female, her 1-year-old son, and the infant's caretaker, 48-year-old female. The genotype identified in the first case is B3.

In **Peru**, 2 cases of measles have been confirmed in Peruvian residents who had not left the country. The cases, a 46-year-old-male and a 16 year-old-male presented with rash on 24 and 28 February 2018, respectively. No cases have been identified that are imported or related to another imported case that could be the source of contagion of the confirmed cases.

² Further information available in the Pan American Health Organization / World Health Organization. Epidemiological Update: Measles. 6 April 2018, Washington, D.C.: PAHO/WHO; 2018. Available at: <https://bit.ly/2ruywqM>

In **Venezuela**, between EW 26 of 2017 and EW 16 of 2018, a total of 1,631 cases of confirmed measles were reported; 727 in 2017 and 904 from EW 1 to EW 16 of 2018. Of the confirmed cases, 1,353 were confirmed by laboratory and 278 by epidemiological link. Two deaths were reported. Most of the suspected cases come from the state of Bolivar, followed by the Capital District. Another 11 states have reported cases (**Figure 3**).

Figure 3. Distribution of measles cases by state. Venezuela. 2017-2018 (up to EW 16)



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

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, investigation of cases, 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.

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 2016.³ Seventy-two percent of the cases are reported by the following three countries:

³ World Health Organization Regional Office for Europe. Europe observes a 4-fold increase in measles cases in 2017 compared to the previous year. Copenhagen, 19 February 2018. Available at: <http://bit.ly/2ETCTnd>

Italy, Romania, and Ukraine. Between March 2017 and February 2018, 30,818 cases were reported (incidence of 33.68 per 1 million inhabitants), with Ukraine (10,858), Italy (5,041), Romania (4,474), and Serbia (2,827) being the countries that reported the most cases during this time.

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.
- **Vaccinate** at-risk populations (without proof of vaccination or immunity against measles and rubella), such as healthcare workers, people working in tourism and transportation (hotels and catering, airports, taxi drivers, and others) and international travelers.
- **Maintain** a reserve of measles-rubella (MR) vaccines and syringes for control of imported cases in each country of the Region.
- **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 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).
- **Identify** migratory flows from abroad (arrival of foreign persons) and internal flows (movements of population groups) in each country, to facilitate access to vaccination services, according to the national scheme.

Additionally, in view of the upcoming international sporting events, PAHO/WHO recommends that Member States advise all travelers over 6-months-of-age who cannot show proof of vaccination or immunity, that they **receive the measles and rubella vaccine**, preferably the triple viral vaccine (measles, mumps and rubella - MMR), **at least two weeks before traveling to areas where measles transmission has been documented**. The recommendations of PAHO/WHO in relation to advice for travelers are available in the 27 October 2017 PAHO/ WHO Epidemiological Update on Measles.⁴

⁴ Pan American Health Organization / World Health Organization. Epidemiological Update: Measles. 27 October 2017, Washington, D.C.: PAHO/WHO; 2017. Available at: <https://bit.ly/2l3gCSi>

References

1. Measles Rubella Weekly Bulletin: Pan American Health Organization. PAHO/WHO. Vol. 24, n. 15, 14 April 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>